

Talking Points on Education Technology

Background: *These talking points would be used in conversations with CEOs to: (1) build support for an administration initiative in educational technology and (2) lay the groundwork for encouraging financial or in-kind contributions to educational technology programs.*

I'm here because I'm convinced that we have a unique and very practical opportunity to make the kinds of improvements in the US education system we all know is essential for America to compete in today's economy and to ensure that we don't leave big chunks of the population behind as the economy grows and changes.

What I'm talking about is helping schools make use of the kinds of computers and communication technologies your companies have used to achieve the productivity gains and the better, faster, cheaper production systems that are the basis for your business success.

You're obviously also convinced by the opportunity and have taken some practical steps to make it real. I want to understand more about what you've done because I am trying to figure out whether we can build on what you've done here to spark a national effort to capture the potential of educational technology. I'd like to know what I can do to help your ideas sweep the country.

All of you know that neither the federal or state and local governments are going to have a lot of new money to throw at this problem. We've got to be creative. We've got to pay for anything new by finding efficiencies and savings in existing programs. But I'm here to tell you that we're prepared to make every possible effort to make efficient use of federal programs, technology, and information in support of this effort.

I'd like your general thoughts about how we should proceed but I'd also like to get down to some specifics. I've had a team in the administration working on this problem for over a year and we're about to make some decisions about whether and how we should proceed.

We've tried to design a balanced plan of attack built around the four elements essential for bringing the power of technology to classrooms:

1. Connecting every classroom to the global information system
2. Providing high-performance computers or other devices to the schools.
3. Ensuring that the software is available to provide the best possible learning experience with the computers -- experiences as compelling as any Nintendo or Sega game.

4. Ensuring that teachers are trained to make use of the new tools available to them.

We won't win this war without all four pieces in place -- each is essential.

Here are some of the ways we think the federal government can help support this attack.

We've been examining programs throughout the departments of education and labor in the head start program in the corporation for public broadcasting to find out how technology can be used to achieve their missions better, cheaper, faster. We've already streamlined regulations throughout these agencies in ways that permit states and local school systems the flexibility they need to use federal program funds to invest in innovative technologies when they feel this makes sense. We've been searching for technical resources in all the major research agencies -- NASA, ARPA, NIST.

First, we're considering whether to call for a major expansion of the challenge grant program. We like the idea that it causes teams to come together to solve real problems in the schools -- teams that combine businesses, universities, and teachers in ways that might otherwise never have happened. I'd like your ideas about whether and how we should expand the program how to could be modified to be more useful.

Second, we're trying to help the education system as we create the groundrules for a new national telecommunication system. We've strongly supported a provision in the telecom bill that would guarantee schools connectivity at below-market *rates [and I'm prepared to veto the bill if it doesn't make some provision for universal access]*. The FCC is considering the needs of schools as it considers different proposals for using the spectrum. *[As you may know a request is pending on making a portion of the sprectrum freely available in ways that could help schools which the administration is prepared to support]*

Third, we've been working to make federal information available on the Internet so that it can be used by schools. This includes everything from NASA space photographs to weather bureau maps to old satellite photographs from the CIA. We've been working with private firms to find better ways to take the collections of the Smithsonian and the Archives and make them available on line.

I've asked Bill Perry to make the DOD school systems models in using educational technology and these materials will be available to schools.

But we're doing all of this with a clear recognition that the federal government is not going to be a major part of the solution. The real players must be the parents, teachers, and local firms which understand what their communities need in education, and the creative businesses which can develop and deliver a revolutionary learning tools. We've got to find a way to bring these groups together in ways that reward innovation.

We're prepared to help make this a national effort and use the office of the president to help catalyze a national vision of what can be achieved and mobilize private efforts as well as programs in state and local governments. *[This is an issue that's too important to be bogged down in partisen squabbling]*. I'd like to enlist your support in defining this vision, helping the press, the governors, the Congress, and other leaders understand it. And I'd like you to consider practical steps your firms can take to help support any of the four avenues of attack we've outlined.

Tasks

Skills - learning, achievement

Tab 1. Graphic of 4 Foundation Pillars [Barriers-Objectives] and Capstone

Tab 2. Statement of Vision

Tab 3. Federal Electronic Literacy Block Grant Trust Fund

Section
Allocation

Tab 4. Options for federal action and private, state, local action by barrier-objective

Tab 5. "A+" list of potential private sector champions (with commitments, tel #s, concerns, game plan)

~~edit~~ history of our contact with them
- articles, speeches, etc. - their background - why they care

Tab 6. Talking Points for contacts with champions

Tab 7. "A" list of potential private sector champions (with tel #s, concerns, game plan)

Tab 8. Other potential champions (with tel #'s, game plan)

Tab 9. List of governors who might serve as champions (with concerns and game plan)

Tab 10. Summary Description of TLC Winners

Tab 11. California Event (Description of POTUS event in Silicon Valley, winning TLC consortia and plan; private discussion with CEOs from winning consortia. Separate Description of San Diego event with VPOTUS).

6. Roll-out Options - Curry/Sperling

first call - ask them to do something? set call for ideas
- staff follow-up

second call - ask for
- who is our senior staff willing to do!

Teacher's Unions - CA NEA?

FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

Office of Plans and Policy

FACSIMILE TRANSMITTAL SHEET

Date:

Time:

To:

Paul Diamond + Ed Fitzsimmons

Organization:

Fax:

456-2223

Phone:

456-6023

From:

Kare

Fax:

(202) 418-2807

Phone:

(202) 418-2030

Direct: (202) 418-2042 (o) 244-5476 (h)

No. of Pages (including cover sheet):

5

Notes:

Attached: writeup + description of on-line service
Time Warner is currently test marketing +
would likely be the service it would provide
schools. It includes Internet access, though
not direct access.

If there are any problems with this transmission, call (202) 418-2030.

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TIME WARNER "SOCIAL CONTRACT"

Goal

Time Warner Cable (TWC) which passes approximately ten percent of the nation, has agreed to the following as part of a Social Contract negotiated with the FCC:

- Service connections at one outlet in 100% of the public K-12 schools passed by TWC cable systems free of charge. (This is already provided to most schools.)
- Wiring for additional outlets in public schools without charge if TWC can coordinate with other comparable wiring installations (i.e. in the case of a rehab or new building) or at cost to TWC in all other cases.
- Unlimited service connections in each secondary private schools that receives funding under Title I of the Elementary and Secondary Education Act of 1965 at cost to TWC.

Assuming successful development by Time Warner Cable and Time Inc. of the on-line service for personal computers they are currently test-marketing, TWC will provide all public schools and Title I private schools whose local cable system provides this service:

- Free access to the TWC/Time Inc. on-line service for use during the school year and a free modem.
- Additional modems provided at cost and free service to each additional modem.
- A free monthly educational program guide with curriculum support ideas to assist educators in effectively using the new services.

The on-line system currently being test marketed includes access to the Internet as well as Time Inc.'s Pathfinder, news, weather and other information.

Actions

The FCC and Time Warner Cable have reached agreement on the proposed "Social Contract." The comment period on the proposed Contract ended on September 15th. A reply comment period closes on September 25th. After the Commission may act on a final order.

The Contract would resolve nearly 1,000 pending cable rate complaints involving TWC, provide \$4.7 million in refunds for subscribers, provide for \$4 billion in upgrades to TWC systems and provide schools with new teaching tools.

Barriers/Potential Downsides

Ratepayers will be charged an additional \$1 per year under the Social Contract over the next five years as a result of TWC's planned upgrades to service, in addition to increases due to inflation and certain increased cost.

TWC is just beginning to market an on-line service. Thus the scope of the service and whether it will be successful is unclear at this time. This is also true of the connections Time Warner will provide inside the schools.

Other industries may object that the Contract allows Time Warner to subsidize school connections on the backs of cable subscribers. More broadly, the Contract may open debate about the Cable Act and cable regulation.

Message

Reinventing government. The FCC is deregulating, lowering rates *and* networking schools by being proactive and goal-oriented.

Training Teachers

Draft: 9/8/95

Goal

By the year 2000, the nation's 2.9 million teachers will have the skills to use technology for effective teaching and learning. Today, approximately ten percent of teachers are proficient users of instructional technology. 500,000 additional teachers must receive training each year from now to the year 2000.

Executive Actions

- *Teacher Training Summit.* The Secretary of Education has committed to providing leadership and visibility to a national effort to train every teacher in the use of technology by the year 2000. In partnership with national organizations and the private sector, the Secretary will convene a summit in December to examine how to improve teacher preparation and scale up current efforts in order to reach more teachers. The use of technology to provide professional development; changing state certification requirements for teachers; individual teacher grants; and the Tech Corps, a voluntary organization of technology professionals who provide training and advice to schools are all strategies that will be discussed.
- *Tech Corps and National Technology Honor Society.* Both of these organizations will encourage badly-needed support for school staff who are beginning to use technology.
- *Regional Technology Consortia.* Six Regional Technology Consortia (RTC's), recently funded by the Department of Education, will push for new ways to reach more teachers. One priority for the RTC's is to help teachers and administrators integrate technology into classrooms through professional development and information and resource dissemination. Teacher training efforts in technology are also supported by the Department of Energy, NASA, the National Science Foundation, and dozens of federal research and development centers across the country -- reaching tens of thousands of teachers every year.
- *Funding.* The Eisenhower Professional Development Program and Title I provide teacher training funds by formula to states and school districts, mostly in mathematics and science. As there is no limit to how much of these funds can be used for professional development on the use of technology, this program can become an important means of supporting technology professional development.
- *Teacher networks.* Teachers report that they find great value in electronic networks that encourage teachers to share resources, information, techniques, and professional know-how. The Department of Education and other agencies will expand electronic teacher networks through federal programs such as Star Schools, the Challenge Grants, NSF's Applications of Advanced Technologies, Networking Infrastructure for Education, and

Teacher Enhancement programs, and the Department of Commerce's
Telecommunications and Information Infrastructure Applications Program (TIIAP).

Private Sector and State and Local Actions

States

States are a crucial partner. Today, states contribute to teacher training for technology by providing funds for training to districts, by providing training through statewide training centers, by supporting statewide networks of teachers, and by setting new teacher certification standards. Many more states will need to adopt these strategies to meet the goal.

- *Funds for training.* The Florida legislature allocated \$55 million for educational technology for the 1993-94 school year. Districts applying for these funds were required to set aside 30%, or over \$16 million, for training.
- *Statewide electronic networks.* As of early 1995, 37 states had statewide telecommunications networks of some kind. Funding for these networks has grown eleven-fold in the last two years, from \$18 million in 1993 to \$207 million in 1995. These networks provide free or inexpensive access for teachers to the Internet and have a strong focus on teacher professional development. Many provide on-line courses for teachers and resources such as lesson plans.
- *New teacher certification or in service requirements.* State certification requirements for teachers are set by state legislatures. In 1994, at least 18 states required training in computers or technology for all teachers seeking certification. This represents a 50% increase from 1987, when only 12 states had such requirements. Alabama requires that teachers receive at least some training each year on the use of computers. Vermont strongly recommends that districts do so.

Private Industry

Summer courses for teachers and encouraging employees to volunteer their technical know-how to schools are just a few ways businesses can support teacher training. If a business commits to training one percent of the teachers in a state or community in which it does business, each of those teachers can be asked to train ten of their colleagues, greatly expanding the impact of the initial investment.

High-tech companies can work with universities and school systems to develop the next generation of teacher training strategies. They can also offer equipment or software discounts for teachers.

Private Sector Involvement in Teacher Training

The US West Foundation, working with the National Education Association, awarded a three-year, \$1.6 million grant to the University of Northern Colorado to establish a corps of teachers and administrators who are skilled in the use of telecommunications networks. About one percent of the state's teaching force has received training and free equipment, and each participant is expected to train ten additional teachers and administrators. So far, teachers have been enthusiastic about training their colleagues. Teachers in 13 other states are slated to receive training in the future. (Source: Benton report; Gwen Solomon)

TCI, the nation's largest cable TV provider, operates the J.C. Sparkman Center, a teacher training facility in suburban Denver that provides training every year for over 400 teachers a year who live in communities served by TCI. The training covers a full range of technology topics.

School Districts, School Administrators, and Teachers

District and school building leaders and teachers themselves are in the best position to ensure that purchases of hardware and software are accompanied by investments in teacher professional development and support. Currently, only about 15 percent of K-12 technology investments are for teacher training (OTA, p. 136). The experience of leading edge schools -- and the private sector -- with technology suggest that expenditures on technology should be re-allocated in favor of training, so that it comprises 30 to 50 percent of the total. Actions:

- *Launch a teacher training initiative* that includes providing on-going technical support for teachers and school staff through district or school building technology coordinators, and technology courses for teachers, possibly linked to incentives such as increases in salary. "Train the trainer"-type efforts have been successful in many schools and districts. Schools can also call upon parents and employees of local businesses to help teachers learn new skills.

School and District Approaches to Teacher Professional Development

The **Blackstock Middle School** in Port Hueneme, California, has taken a radical and innovative approach to professional development. Eight years ago, a history teacher was given a year off from teaching and told to develop a year-long history program which made significant use of technology. He was given considerable freedom and resources to redesign his classroom into a "smart classroom." Later, several other teachers were given the same opportunity. Today, the school has eight "smart classrooms" and teachers can learn how to use them in three weeks of training.

The **Jefferson County Public Schools** (Louisville, Kentucky) have twelve computer in service teachers, called "CITs," who work directly with teachers in the district's 153 schools. The CITs in turn support school building-level technology coordinators. The CITs perform services such as providing workshops, trouble-shooting software and hardware problems, ordering equipment through the district's procurement service, and working with individual teachers to integrate technology into their instruction.

Colorado's **Boulder Valley School District** has joined forces with the University of Colorado at Boulder, regional and state networking agencies, the local business community, the Boulder Area Chamber of Commerce, and the National Science Foundation to teach teachers and students how to use the Internet and build a community-wide network. Part of the district's initiative is to train a core group of 25 lead teachers from all grade levels and disciplines, who will evolve into a team of peer trainers.

- *Encourage students to contribute.* Many schools have found that -- properly supervised -- students can make valuable contributions to maintaining technology in schools. In fact, many educators find they learn computer systems faster than adults. Kyle Sheumaker is one example. A senior at Central High School in Kansas City, Missouri, Kyle is an essential part of the school's technology team. He sets up new student accounts on the school's local area network and maintains the school's "gateway" to the Internet. Several periods a week, he visits classrooms to assist teachers with problems. Kyle receives course credit for his work and has developed valuable workplace skills in the process.

Colleges and Universities

Institutions of higher education are essential to reaching every teacher by the year 2000. Every year, approximately 100,000 new teachers graduate from teacher preparation programs, and in the next decade, the nation's schools will need to hire about two million teachers (OTA p. 166). Over 40 percent of these will be first time teachers (NCES, Condition of Education 1994, p. 158). Some colleges and universities are actively working to incorporate technology into teacher preparation. One strategy is adopting curriculum guidelines for technology, such as those developed recently by the International Society for Technology in Education. Colleges could elect to adopt these guidelines, or develop their own. Another strategy is to encourage faculty to become model users. Since the majority of teacher education faculty completed graduate programs and taught in schools before technology became commonplace, it is not surprising that they tend to have limited experience with technology in education. But future teachers need practice to become skillful users of technology. Finally, it will be necessary to draw on a broader set of higher education resources, including university computer science departments and other faculty and departments that can join in the effort to prepare teachers to use technology.

Draft September 9, 1995
Tom Kalil

Scenario for September 21st Educational Technology Event in San Francisco

1. President and Vice President meet with CEOs/Community Leaders

The President and Vice President have a private meeting with a number of California CEOs, including but not limited to the 17 companies that are participating in the Technology Learning Challenge.

The President:

- * Congratulates the group for their leadership and commitment on educational technology;
- * Makes it clear that preparing America's children for the 21st century and giving them the high-tech tools they need to succeed is a personal priority of his, and he intends to lead a national campaign on this;
- * Outlines the types of initiatives that he is thinking about, and asks for their input and support.

The CEOs tell him about their proposal for an "electronic barnraising" for California, and give him suggestions for a national approach.

Smart Valley has agreed to help us pull this group together, but we need to give them guidance on size and composition of the group. For example, do we want educational, community, labor leaders and Congressional delegation as well?

2. President tours school

The President then tours a local school and sees children and teachers using the technology in ways that revolutionize learning. The children show him the projects they are working on, and how they can communicate with other students around the world, take "virtual field trips" to science museums, publish their student newspaper on the Internet, download the President's speeches, etc.

Using video-conferencing, The President and the Vice President are able to communicate with their wives (or another Cabinet member).

3. President makes announcement on the Technology Learning Challenge

The President announces the 19 grants made under the Technology Learning Challenge. He describes some of them, explains why this is so important to the nation, and makes it clear that he intends to lead a national campaign on this.

He then praises private sector on their "electronic barnraising" idea [barnraising for the 21st Century?], and states that federal employees will be prepared to do this in California. [Option: the President could personally commit to helping out in a school in D.C.]

4. Private sector makes announcement on "electronic barnraising."

CEO explains why this is so important -- what kind of skills will be required for the workplace of the 21st century.

CEO describes the idea behind the electronic barnraising.

The exact commitments that companies are willing to make is still under discussion, but this the outline of the kind of announcement we would like to see.

- * Companies (and other organizations, such as CWA, IEEE, Nasa-Ames, Lawrence Berkeley Laboratory, the Marines) will encourage their employees to volunteer at some point next year to -- at a minimum -- physically wire California schools.
- * Ideally, companies and organizations will commit to:
 - Wiring a specific # of schools, which could then be aggregated to an overall total.
 - Convincing a specific # of other companies (suppliers, customers), etc. to join them in this crusade.
- * People will be able to click on an on-line map of California to tell whether schools in their area has been wired, whether anyone has signed up for it, and also be able to download a step-by-step "how to" manual.
 - This demonstrates a new, powerful, "self-organizing" way of people working together to address a common challenge.
 - It shows that, "If we all do a little, we can do a lot."
- * This is only the first step, but it is a necessary first step, a doable first step -- that will hopefully catalyze progress in other areas (content, training, hardware.) A person or company who spends a Saturday wiring a school may also get personally involved.

606-2910
 Ken Brooks
 Labworker Mary
 606-2871 → Work force letter
 606-1177
 0/11 - 0. Layers of Regulations of the Ability of
 Fed workers to volunteer on govt time
 Mary Lou Lindholm
 606 2066
 Most recent Super of testing
 X Scientists
 X IED workers

1) Linda Pike
 2) 215 + 606 1100 →
 WF info
 606-0800
 0860
 HR Systems 606

6-18-18
 = 215 + →
 = 10
 = Oct 11 - Ken
 ANNOUNCE actual event
 Oct
 Apple →
 606 2800
 Assoc Dir
 Andrew Chul
 WF info
 1977

→ Oct 21 - Gov thrt
 Nat Board Prof teaching standards

PHOTOCOPY
 PRESERVATION

~~Ken~~
 Ken Melly - NEA tech issues
 Della Reschke
 AFT
 (Toy) - PPS \$75
 7th floor
 7484
 (313) 747-7147
 Charlie Taylor 606 1980
 Chris 2704
 1817

THINGS TO DO FOR

Home

1.

CEO To do checklist

2.

Conf Calls

3.

Tech ^{Background} ~~Notes~~ for Peter & on CEO

4.

Task List todo TLC

5.

Resume !!!

6.

7.

8.

9.

10.

11.

12.

13.

14.

15.

Event
memo
- 60s+ speech
- Tech statement

- fax on Tuesday

John Catholic K

- Paul Valez Gary Chica

Long Term Teachers Contract

- (312) 664-0174

CLOSE HOLD

TEMPLATE FOR EXECUTIVE ACTION WRITE-UPS

As we work towards an event on Educational Technology, we need to flesh out any and all possible actions that the Executive Branch could take to further the use of interactive learning technologies in our nation's schools. As a part of this process, we would like to have a 1-2 page write up for every potential executive action that could be taken in this area. **First drafts of these write-ups will need to be completed by our next meeting on Friday, September 1, at 11:00 (room TBD) so time is short!** Before this meeting on Friday, please send your drafts to the point person in the relevant areas:

- **Computers in the Classroom:** Linda Roberts, DoEd, 401-1444 (ph), 401-3093 (fax), lroberts@ed.gov (email)
- **Connecting the Classrooms:** Tom Kalil, NEC, 456-2892 (ph), 456-2223 (fax), tkalil@arpa.mil (email)
- **Engaging Content:** Mike Schmidt, DPC, 456-5567 (ph), 456-7028 (fax) schmidt_mt@a1.eop.gov (email)
- **Teacher Training:** David Stevenson, DoEd, 401-3389 (ph), 401-3095 (fax)
- **Lifelong Learning (new area)** Ed Fitzsimmons 456-6038 (ph) 456-6023 (fax) fitzsimmons@ostp.eop.gov (email)

If you don't know which area your write up fits under (or if it spans several areas), please send it to Mike Schmidt, at the numbers listed above. When drafting these 1-2 pagers, please make sure they answer the following questions:

1. What is the goal to be achieved and by when? (Be as specific as possible. For example: 10% of schools would receive X by 1996 and 30% by 1997)
2. What actions must be taken? Specifically, what executive actions can we take without Congressional action?
 - How can we more effectively target and leverage existing federal programs to accomplish this goal?
 - How can FY97 money be used?
 - What regulatory barriers can we remove?
 - What actions will we expect the private sector or local/state school officials to take? (be specific where possible)
 - What will be done to engage the private sector or local/state schools in the initiative?
3. What barriers exist to achieving this goal?

4. What are the potential downsides to taking these actions?
5. Are there any catchy, "chicken in every pot" analogies that could be used to describe this action?
6. What is being done today by the public and private sectors to achieve this goal?

POSSIBLE ACTIONS

On the following pages, 34 possible actions that have been raised so far are listed out along with the person/agency responsible for fleshing each one out. This list is a work in progress -- hopefully we will see a number of additional innovative ideas that will make this list pale in comparison.

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
1. Set out FY96 Technology Learning Challenge Grant Program -- increased funding? (Barrier: Content)	Education/Interagency Technology Office (ITO)
2. Executive Order allowing government workers to use flextime to do tech corps activities (Barrier: Connecting the Schools)	OSTP and DPC
3. Executive Order to streamline GSA process of getting excess government computing and other telecommunications equipment into schools (Barrier: Computers in Classroom)	OVP
4. "Electronic Hometown" Web site for communicating lessons learned/federal technology available (Barrier: ?)	OSTP (Julie)
5. Executive Order on Coordinated Federal R&D in Learning Technologies and Applications (Barrier: Content)	OSTP (Henry)
6. Providing digitized Federal resources from technical agencies (NASA, NOAA) and cultural agencies (Smithsonian, Archives, Park Service, etc.) (Barrier: Content)	OSTP (Henry)

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
7. Chapter 1 Actions to promote use of technology in schools (i.e. Software/Hardware Purchasing Consortia) (Barrier: Computers in Classroom)	Education (Stevenson) <i>- no restrictions on use</i>
8. Revise regulations to allow schools to lease rather than purchase technologies (Barrier: Computers in Classroom)	Education (Stevenson) <i>(can still purchase)</i>
9. Head Start Actions to promote use of learning technologies (Content)	DPC and HHS (TBD)
10. Eisenhower Program Actions to promote greater teacher training in use of technology for teaching (regulatory action redirecting Eisenhower funds to tech training?) (Teacher Training)	Education (Stevenson) <i>can use all of their funds</i>
11. Americans With Disabilities education program actions to expand use of learning technologies (Content)	Education (Stevenson)
12. Job Corps Program Actions to promote use of learning technologies in Job Corps Centers (Lifelong Learning)	Education ITO (DOL staffer)
13. Adult Basic Education Program Actions to promote use of learning technologies (Lifelong Learning)	Education (Stevenson)
14. One-Stop Center Actions to promote use of learning technologies (Lifelong Learning)	Education ITO (DOL staffer)
15. Technology Corps (Connecting the Schools)	OSTP (Fitzsimmons)
16. National Technical Honor Society (Connecting the Schools)	OSTP (Julie)
17. Private Sector effort to facilitate donations of equipment to schools (Computers in the Classroom)	OSTP (Fitzsimmons)

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
18. Private consortia for supporting Challenge Grant Program (Combine With Number 1 -- Content)	Education ITO with OSTP (Henry) and DPC
19. Spectrum allocation for education uses (Connect the Schools)	NEC (Kalil) and DOC (Sallet)
20. Use of excess government satellite or other communications capacity (Connect the Schools)	OSTP (Jeff) with NEC (Kalil) and DPC <i>Tuesday</i>
21. Improved use of cable channels (Connect the Schools)	NEC (Kalil) <i>1st FCC</i>
22. Use interactive instructional facilities in National Guard Armories during down-time (Connect the Schools)	DOD with OSTP
23. DOD CREADAs with developers of instructional software (Content)	DOD with OSTP
24. Sun proposal to get "army of engineers" out to pull wire in schools (Connect the Schools)	NEC (Kalil) <i>(Tech Corps)</i> <i>Kalil - do</i>
25. NTIA Spectrum transfer (Connect the Schools)	NEC (Kalil)
26. Challenge to University Community to increase content available and to do quality control (Content)	OSTP (Henry)
27. Tax Incentives (Computers in the Classroom)	OSTP (Fitzsimmons) and Treasury
<u>28.</u> Challenge to Universities to include technology training in Certification of teachers (Teacher Training)	Education (Linda)
<u>29.</u> Business Training/Mentoring program for teachers (ISME Prototype) (Teacher Training)	OSTP (Fitzsimmons)
<u>30.</u> Establish Institute for Education and Training R&D (Content)	OSTP (Fitzsimmons)

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
31. Identify and make available federal education and training resources (e.g. authoring tools) (Content?)	OSTP (Fitzsimmons)
32. Challenge Industry to build a low cost PC for educational applications (Computers in Classrooms)	?
33. School to Work: Virtual Career Exploration (Lifelong Learning)	DOL and DOD
34. Free or Rental Terminal to connect to internet at low cost (Connecting the Schools)	OSTP (Fitzsimmons)

→ Traps for teachers - Don

→ Central Clearinghouse
Greenhouse NHT Council
call - McCracken - get NII report

→ Jeffords wants to create library sources & tech act & Digital Library project

S

Education Technology Task List

I. Defining Barriers/Solutions

For each of the four barriers below, answer the following questions

- | | |
|------------------------------|--------------------------------------|
| • Computers in the Classroom | Jim Kohlenberger/Linda Roberts/GSA |
| • Every Classroom Wired | Tom Kalil/Laura Breeden |
| • Engaging/enriching content | Paul Dimond - and Dept Ed |
| • Teacher training | Linda Roberts/Mike Smith DoEducation |

What is the goal to be achieved and by when?

What is the barrier(s) that exists today to achieving that goal?

What is being done today by both the public and private sectors toward that goal?

What is the best solution/biggest idea?

How many, which and by when would real people be effected?

What is the chicken-in-every-pot analogy?

To accomplish this goal, what specific actions need to be taken?

What executive actions can we take?

How can FY97 money be used?

What regulatory barriers can we remove?

How can we more specifically target existing programs?

To accomplish this goal, what action(s) should the private sector take?

What must we do to fully engage the private sector?

II. Functions

- | | |
|-----------------------------------|--------------------------------|
| Congressional Outreach | Barbara Chow |
| Business Outreach | Jonathan Sallet |
| Labor Outreach | Paul Dimond |
| Event options | Mike Schmidt |
| Press plan | Heidi Kukis/Rick Borshelt |
| Material Collection/Briefing Book | Ed Fitzsimmons/Julie Swisshelm |

III. Specific Analysis

- OMB analysis of Chapter 1 cuts (and any similar program cuts) and what that means for the number of new computers that could go into a classroom.
- GSA analysis of how many computers the federal government offers up as surplus on an annual basis and estimate of how many of those go to educational institutions. Also, is the rate expected to increase or decline?
- How can Tech Corps be expanded to included computer refurbishing etc. -- Ed Fitzsimmons

(10/1)
30/5

**CONNECTING THE CLASSROOMS:
PASSAGE OF THE SNOW-ROCKEFELLER AMENDMENT**

Summary: The President should urge Congress to include the Snowe-Rockefeller provision in the conference on the telecommunications reform legislation. This provision is in the Senate bill but not the House bill.

Background: The Snowe-Rockefeller provision states that:

1. All telecommunications carriers must provide elementary and secondary schools with "universal service" at some level of discount that the FCC and the States find to be "necessary to ensure affordable access."
2. The amount of the discount provided to schools and libraries is counted against the universal service obligations of the telecommunications carriers.
3. The FCC may develop a separate definition of "universal service" that only applies to public institutions. [For example, universal service has traditionally been defined as basic telephone service. Schools would want to have more advanced services such as ISDN or high-speed leased lines.]

In addition to the Snowe-Rockefeller provision, the Senate bill also calls for the Commission and the States to encourage the deployment of advanced telecommunications services to all Americans, but particularly to schools. States can use price cap regulation, regulatory forbearance, and other methods that remove barriers to infrastructure investment. [For example, some states have allowed RBOCs to operate under price cap regulation if they agree to connect the schools.]

Pros:

1. This is a winnable issue. It has bipartisan support on the Senate, and Bliley (chairman of the House Energy and Commerce Committee) has indicated that he is open to some version of Snowe-Rockefeller.
2. This has very strong support in the educational community.

Cons:

1. This could reduce our leverage on other issues in the telecommunications issues that we care about in the bill. The President has said that he will veto the bill unless improvements are made on provisions such as cable rates, RBOC entry into long-distance, the V-chip, etc.
2. This could be seen as a tax, since universal service is funded by telecommunications providers, and ultimately results in higher phone bills.

BUILDING THE INFORMATION SKYWAY: CONNECTING THE CLASSROOM

Summary: A number of companies such as Apple have proposed setting aside some of the spectrum for unlicensed use. As opposed to "auctioning" the spectrum for specific uses and for specific providers, this "NII Band" would be freely available to anyone. This allocation would be uniquely suited to the needs of schools, libraries, and community networks. The Administration could support this initiative by filing comments before the FCC and identifying the portions of the spectrum that could be used for these purposes.

Background: The FCC is currently considering how and whether to respond to a proposal made by Apple and supported by other leading high tech companies such as Microsoft. The "NII Band" proposal would set aside 300 MHz of spectrum in the 5 GHz range. This proposal has a number of benefits:

1. Schools (or any other user, for that matter) would not have to pay connect charges.
2. The cost of "wiring the school" could be avoided. The spectrum can be used for both local-area networks and long-distance (up to 10 miles) links. This is particularly important for remote, rural schools and for schools with asbestos problems.
3. The market for new, low-cost wireless devices would be stimulated.
4. Communities can create flexible networks that connect community centers, school districts and universities without the need for licensing and coordination.

Timing: The Administration could make an announcement that it supports rapid FCC action on this in September, assuming that there are no inter-agency concerns. Companies could develop products that use this band of spectrum within 6-8 months of the establishment of FCC rules for the spectrum.

Cons:

1. There is some disagreement between computer companies and telecommunications companies as to the exact technical rules that should guide the use of this spectrum. Computer companies are interested in data -- telecommunications companies would like to see support for voice. The industry is currently working to develop a compromise.
2. Some companies may claim that this allocation would be unfair to those companies that have paid billions of dollars for licensed spectrum. However, this allocation will not support "roaming" or highly reliable, mission-critical services, so it will not be directly competitive with those services.

Additional ideas/points:

1. Need to acknowledge that a lot of learning takes place outside the classroom. Is there some aspect of the plan that can reflect that?
2. Under "content" -- add support for Library Services and Technology Act, and for Library of Congress Digital Library project.
3. We should have a separate "breakout" (in addition to PCs, connectivity, teacher training, and content/applications) which shows what different stakeholders can do:
 - Federal Government
 - Private sector
 - Teachers
 - Governors and local community leaders
 - Individual volunteers
 - Hardware/software developers
 - Higher education
 - Parents
 - Congress

Thomas Kalil 9/1/95

TECHNOLOGY LEARNING CHALLENGE EVENT PROPOSAL

SUMMARY

This memorandum outlines ideas for a major Presidential Initiative on Technology and Learning. We propose a two-stage process:

- First, that the President take part in a series of small, "stage-setting" meetings and events with business and education leaders who work with the President in designing and participating in a public-private effort to make sure our nation's schools are not left behind in the information technology revolution that is sweeping through the rest of our economy;
- Second, that the President come together with business and education leaders in a large-scale Presidential event to launch a new public-private partnership for education and technology.

The timeframe for action on this issue is short -- on October 12, the House Education and Science Committees are planning to hold a public hearing on educational technology that will likely include Speaker Gingrich as the star attraction. No Administration witnesses will be invited. In order not to be trumped by this hearing, the best timeframe for action is September 6 through October 9. This memorandum will discuss a number of ideas for the stage-setting events and the roll-out event. A companion memo will discuss details about what this public-private initiative will entail.

STAGE-SETTING EVENTS

Over the next few weeks, the President has a number of opportunities to meet with business and education leaders who are interested in working with the President on a major public-private initiative to ensure that our nation's schools are full participants in the information revolution. These small meetings and events would raise expectations and press interest in an event sometime in early October that would roll out the Technology Learning Challenge initiative. Events could include:

- **September 6: Meeting with CEOs Who Support Continued Funding for GOALS 2000.** On September 6, the President is scheduled to meet with 8-10 CEOs who support GOALS 2000. At this meeting, the President is going to discuss ways in which CEOs can help to accelerate the pace of education reform. As a part of this discussion, he could briefly raise the issue of educational technology and his interest in talking in more detail with the business community over the next few weeks about joining together in a major public-private initiative on this front. Obviously, this would not be the major topic of discussion in this meeting, but it would at least raise the issue with these CEOs. The fact that education technology initiatives were discussed in the meeting could be a part of the press release for this event.

- **September 15 or 18: Meeting with Leaders of the National Coordinating Committee on Technology in Education and Training (NCCTET).** The NCCTET represents a broad and influential spectrum of the business and education community who are interested in promoting the use of technology in education (see attached list of NCCTET Members). NCCTET members are scheduled to come to DC for a regular meeting on September 18. The President could meet with a small number of the most influential members of this group (i.e. Geiger of the NEA, Shanker of AFT, George Lucas) to talk in some detail with them about a Presidential roll-out event in early October and what kinds of commitments they could make at this event to promote the use of learning technologies in our nation's schools.
- **September 21: Announcement of the 1995 Technology Learning Challenge Grant Award Winners.** On September 21, the President is in California, he could announce the 20 winners of the 1995 Technology Learning Challenge Grant competition. These winners represent community-based partnerships between schools, local communities, colleges, and businesses (see attached list of winners), and we could get a number of representatives of these winning teams on stage with the President for this event. There are 2 winning consortia from California. During this presentation, the President could formally announce that on October X he will be joining with business leaders and educators from across the country to announce a major new initiative in learning technology.

To support these meetings, Cabinet members could be asked to hold similar stage setting meetings over the next few weeks.

These meetings/events serve four very important purposes:

- They would help ensure the support of the business and education community by getting these groups to feel ownership and buy-in to the initiative up front, before the actual roll-out takes place;
- They would give the President an opportunity to encourage the private sector and foundations to contribute to this initiative.
- They will help build anticipation for the actual roll-out event in the press -- each meeting and event would hint more and more broadly at the major initiative to come;
- They will help convince the press and the public that this is not a "one-shot" event that was put together purely for message reasons, but instead is an initiative that has been thought out and carefully planned over a period of time.

THE PRESIDENTIAL ROLL-OUT EVENT

In early October, the President should come together with leading business and education leaders to unveil a major new public-private initiative to get technology into our nation's

schools. This event must take place before October 11, or else we run the very serious risk of being trumped by Speaker Gingrich on this issue.

The event will involve a number of influential CEOs, education officials, students, and teachers who will all commit to participating fully in this new partnership. The President will be announcing a series of challenges to the private sector and a number of executive actions that he will take to show the seriousness of the federal government's commitment to this partnership. The CEOs will announce their support of the initiative. Possibilities for event sites include the following:

- **The White House South Lawn.** In his speech on September 21, the President could invite business and education leaders back to the White House for the roll out event. The backdrop for this event could be examples of the latest electronic technology for children, where participants could actually use some of this technology. Children from local schools could be invited to try out the technology as well. All of the costs for setting up this equipment would be borne by a business association called Kids Net (a consortia of high-tech hardware and software companies), which has been offering to set up and show-off their equipment for an event at the WH on learning technology for over a year. CEOs who can not make it to the event could be linked by satellite to give brief statements of support, and the event could be broadcast by satellite to a number of schools across the country.
- **A High-Tech School Outside the Beltway.** There are a number of schools all across the country that are using technology in innovative ways that could host such an event.
- **A School-Member of One of the Winning Technology Learning Challenge Grant Consortia.** The event could be held at the site of one of the TLC grantees.

DRAFT
SUSTAINING LIFE LONG LEARNING
A Broad Area Description

In the not-to-distant past, life was much less complicated: a good education was usually sufficient to prepare young adults for the first important step on a life long career ladder. Those who went on to college were fairly certain to get higher paying and more challenging jobs that would sustain them throughout their lives. Today this critical part of the American Dream is undergoing a profound change. In order to compete for the best jobs, high school and college graduates are increasingly required to upgrade their knowledge and skills to keep pace with an rapidly evolving work place. The causes of this change are fairly well known: a) the shift from an industry-based economy to one which is inextricably linked to information technologies; b) the rapid growth in virtually every field of science and technology; and c) the need to compete in an increasingly global and competitive market place. Although we clearly understand the challenge, we currently lack the vision and a comprehensive strategy to cope with this unprecedented and pervasive change.

This set of proposals is intended to serve as a first important step in designing a comprehensive strategy to reinvent the existing methods of delivering education and training. These proposals compliment other TLC initiatives which focus primarily on K-12. The intent of this initiative is to provide the American people with the tools and incentives needed to sustain an active involvement in learning through out their lives. Life long learning covers the full spectrum of education and training needs: preschool; K-12; higher education ; the transition from school to work; and training and retraining adults throughout their careers. The broad scope of this initiative will yield tangible benefits to all Americans, regardless of age, race, gender, or economic level, and as such, will engender wide-spread support.

Vision: *Ensuring all Americans access to quality education and training tailored to their individual learning and workplace needs at any place and at any time*

Goals: The Administration will:

- Provide tax incentives: Teachers will write off cost of training to become technology proficient as well as the purchase price of learning technology tools. Families will write-off the expense of purchasing and using learning technology tools.
- Work with Industry to develop a low-cost "Set-Top-Box" ensuring both universal access and a very large market place for distributed interactive learning.
- Establish an Institute for Education and Training Research and Development through partnerships with Academia and Industry.
- Establish an Interagency Learning Technology Office to coordinate Federal R&D and demonstrate cost-effective uses of learning technology.
- Set new goals for Cooperative Research and Development Agreements with the Federal Labs.
- Develop new methods to transition Federal learning technology tools and courseware to the public and private sector.
- Accelerate the use of learning technology to support the transition from school to work.

Action: An Electronic HOMETOWN for a national collaboration on educational technology will developed and maintained on the World Wide Web. This site would be maintained by a consortia of school and university groups. It would provide links to material which has been reviewed by the consortia as well as links to sites which provide access to a rich set of resources likely to be of uneven quality. The site would also establish discussion rooms for specific interest groups including sites for teacher discussions, in-service training, and other specialized meetingplaces. Other virtual discussion rooms would be operated by the Technology learning Corps, the interagency research group chartered under the executive order, consortia of chapter 1 schools, links to Challenge Grants, National Technology Honor Society and many others

Goal: To provide a single, friendly opening to the rich, decentralized, flexible collaboration that will characterize the education and learning initiative.

Actions: The President will unveil a prototype of the site at one of the educational technology events in September or October.

Barriers: Somewhat difficult to keep a web site such as this one current. If it consists primarily of pointers to agency resources this problem is avoided. Responsibility for maintaining this site could be transferred to the Interagency Learning Technology Office.

Analogies: This web site would be similar to the U.S. Business Advisor (<http://www.business.gov>) which provides a single point of entry to government information relevant to the business community.

Current public and private sector activities: There are many federal resources available online already; this effort would link these together and leverage existing activities, rather than create an entirely new activity.

Action: Issue an Executive Order establishing a coordinating office for federal research in learning technologies. The office would provide an efficient way to coordinate national learning technology efforts by combining the skills of the Departments of Education and Labor with those of technology agencies. It would support focused research, development, demonstration, assessment and dissemination in learning technologies, coordinate public/private research partnerships (such as the TLC grant program), and provide a source of expertise on learning technologies for both federal and other organizations.

Moniker: Schools can best deliver the skills needed in a high-tech economy if they state-of-the art themselves. Why not the best?

Impact: Provide the foundation for advances in learning technologies that will revolutionize classroom and home learning over the next 5-10 years. Highly visible demonstrations of advanced strategies involving creative business partners, universities, and schools during 1996/7.

Funding: *The office started under the executive order would require no new funds.* The office now plans to operate with a very small budget and staff on loan from agencies. However, limited funds present a major constraint on research opportunities. \$30 million in additional funding would fund five ambitious research demonstration projects -- projects which would test advanced with might be eligible for challenge grant awards when the next generation of hardware becomes widely available ins schools. The demonstrations would be selected on a competitive basis and cost shared with industry. Following the high-performance computer precedent, \$6 million could be put in the budget of five agencies and earmarked for the interagency office demonstrations.

Participants: Schools and businesses will participate as research partners/contractors in the sponsored research and demonstrations. A separate advisory group may be formed to review priorities.

Downsides: New funding requires Congressional approval and embroils the proposal in the budget debate. Federal applied research -- however well justified -- meets strong ideological opposition.

What's being done today: Approximately [\$200?] million is now being spent on education and training technology research in the agencies. Most of this is mission related with approximately 2/3 spent in DoD.

DRAFT: 7/31/95

EXECUTIVE ORDER #####
INTERAGENCY LEARNING TECHNOLOGY OFFICE

By the authority vested in me as President by the Constitution and the laws of the United States of America, including _____ (Public Law #####), and in order to establish an interagency learning technology office to bring learning technology to bear on the objectives of education, training, and life-long learning, it is hereby ordered as follows:

Section 1. Establishment. There is established the Interagency Learning Technology Office ("the ILTO").

Section 2. Purpose. The purpose of the ILTO is to initiate and support focused collaborations of the technology agencies with the Department of Education to create and demonstrate learning technologies for the 21st century.

Section 3. Functions. (a) The principal functions of the ILTO are, to the extent permitted by law:

- (1) To initiate and support focused interagency collaborations in the research, development, demonstration, assessment, and dissemination of learning technologies across the Federal government.
- (2) To identify and focus the knowledge and expertise on learning technologies that exist within each of the Federal Departments and Agencies.
- (3) To promote and coordinate public-private sector collaboration, investments, and partnerships for improving learning productivity.
- (4) To serve as a single point of access to the best available learning technologies within the Federal government for state and local governments, private companies, and individual Americans.
- (5) To assist Federal agencies with identifying and using technology in major education and training programs.

(b) The ILTO may, at the discretion of its Director and consistent with FACA requirements, convene advisory panels to assist in the performance of its functions.

Section 4. Direction. (a) The Chair of the Executive Board of the ILTO ("the Chair") shall be a senior official of the United States Government, whose oversight of

the ILTO shall be added to his or her existing duties. Assignment to the position of ILTO Chair shall be made by the President of the United States, and the Chair shall serve at the pleasure of the President.

(b) The Executive Board shall be appointed by the National Science and Technology Council.

(c) The Executive Director of the ILTO shall provide day-to-day management of the ILTO and shall be appointed by and will report to the Executive Board.

Section 5. Administration. (a) Professional and support staff of the ILTO shall be assigned to the ILTO by the supported Departments and Agencies. The Department of Defense, the Department of Energy, the Department of Labor, the Central Intelligence Agency, and the National Aeronautics and Space Agency shall detail, on a nonrefundable basis, at least one senior level representative to the ILTO. Additional individuals may also be detailed to the ILTO by the Federal agencies mentioned herein or other agencies as needed. Staff of the ILTO shall:

- (1) serve as the project leaders and principal points of contact for their supporting agency's learning technology demonstration program(s);
- (2) coordinate demonstration proposals and plans with the Office of Science and Technology Policy, the Office of Management and Budget, and other Federal agencies as necessary, as well as with the NSTC Committee on Education and Training;
- (3) draft and staff interagency agreements to implement demonstration projects;
- (4) help focus and coordinate related Federal research and development programs with public and private sector organizations.

(b) Initially, the Department of Education shall provide core administrative and financial support for the ILTO.

(c) The ILTO may receive and make use of additional funding from any Federal agency.

Section 6. Future Modification. If any subsequent Public Law (including, but not limited to, an appropriation of funds for the use of the ILTO) deals with the ILTO, those portions of this Executive Order which are not inconsistent with this Public Law shall remain in force.

8/2/95 -- Modify Section 2, Purpose, to read as follows:

Section 2. Purpose. The purpose of the ILTO is to initiate and support focused collaborations of the technology agencies with the Departments of Education *and Labor* to create and demonstrate learning technologies for the 21st century. *It will also encourage the use of technology in all Federal education and training programs.*

Action: Ensure that federal information resources are available in a form useful for developers of learning technology. This would be financed largely through partnerships with private information firms and software developers. Federal seed money would allow federal participants in partnerships to hold up their part of the bargain and avoid "cream-skimming". Priorities for FY1996/7 would be:

- Creating a comprehensive collection of American Cultural materials including documents, photographs, sound recordings, movies, and perhaps some 3-D renderings of materials in the collections of the Smithsonian, the National Archives, and the Park Service. [\$10 million for the consortium in the SI budget]
- Making the "crown jewels" of US statistical information useful for classroom work: Basic census data [permitting schools current data on local demographics], BEA and BLS statistics [job information, business data by state and region], and DoE/EPA information on energy and the environment, USDA information on soils, crops, etc.
- Creating a digital collection of drug-education materials (including curricula for teachers) for dissemination over the net. [Office of National Drug Control Policy is working to see what is possible]

Moniker: *Let schools get into the nation's attic.* The public paid for the information, the public owns this information, teachers and kids can use this information to make their teaching materials more interesting and more relevant to local conditions. Technology makes it possible to make the stuff available to all Americans at an extremely low cost. and without visiting Washington.

Impact: All schools with internet access would have immediate access to the resources. This is 30%[?] of schools and 3% of classrooms today and our goal is to have [?%] connected by the year 2000. Communication developers who would participate in the effort could have products based on the federal collections on the market by 1997.

Funding:

- American Cultural Collections \$10M
- Statistical information (Census, Jobs, Business activity, Energy/environment) \$1M (5 agency projects @ \$200K)
- Drug education on-line \$1M

Non-Federal Participants: Software developers/communication companies interested in developing products. School systems and universities.

Downsides: Funding from private developers for digitizing federal resources may require giving them an exclusive right to the data for a fixed period [e.g. two years]. They will want to “cream skim” collections.

What's being done today: NASA [space photos ...], NOAA [weather maps..], EPA [environmental information], USGS [maps...] and other technology agencies have made extensive collections available in digital form over the net and have requested funding in 1996 to expand this work. The new White House Home page and any new education home pages made available through this initiative will make these collections more accessible. SEC filings and Patent and Trademark information (after 1994) are available.

Draft: 13 August 1995

TECH CORPS

Vision:

A national, non-profit organization of technology volunteers dedicated to helping improve K-12 education at the grass roots.

Mission:

The mission of Tech Corps is to recruit, place, and support volunteers from the technology community who advise and assist schools in the introduction and integration of new technologies into the educational system. Volunteers provide assistance with local planning, technical support and advice, staff training, mentoring, and classroom interactions. The organization utilizes the abilities of skilled individuals and groups across the country in an effort to prepare students, teachers, and schools for the 21st century.

Mode of Operation:

Tech Corps is a volunteer organization. It is funded principally through corporate sponsorships. It has a small headquarters staff to set the Tech Corps mission and agenda, establish and maintain the culture, provide national media liaison, and ensure quality. The broader organization is based on a bottom-up philosophy and draws on the expertise and enthusiasm of technology-literate members of local communities.

Activities:

Tech Corps volunteers work with the teachers and school administrators in their local communities. They do whatever is necessary to promote the effective use of computing and communications technologies in K-12 education. Thus, their tasks may range from getting local contractors to upgrade the electrical wiring in a school, to installing a local area network, to providing assistance in obtaining computing hardware and networking services, to finding a volunteer systems administrator, to helping with the development of a school's World Wide Web home page, to providing assistance with the development of teaching materials, to mentoring students, teachers, or administrators in the uses of computing and communications technologies. Since the determining factors are local needs, a wide variety of tasks are conceivable.

Draft: 13 August 1995

Tech Corps Rollout:

MAY 95	Begin Tech Corps incorporation and tax exemption
JUNE 95	Tech Corps prototype in six states; Obtain corporate and laboratory assistance in building Tech Corps computing and communications infrastructure
AUGUST 95	Tech Corps home page and mirror sites on the Internet in experimental mode; Refine Tech Corps definition, based on feedback from prototype
SEPTEMBER 95	Presidential announcement of Tech Corps and call for organizers; Initial Tech Corps media release and announcement of Charterers' Conference; Public debut of Tech Corps home page; Pointer from White House home page activated
OCTOBER 95	Charterers' Conference held in Washington, DC
NOVEMBER 95	Tech Corps call to businesses at Comdex (possibly by Vice President); Home page focus shifts to recruiting business participants
JANUARY 96	Tech Corps media release and call for participation by school districts; Home page focus shifts to recruiting school districts
APRIL 96	Tech Corps media release and call for participation by volunteers; Home page focus shifts to recruiting individual volunteers
SEPTEMBER 96	Tech Corps operational

WHY TECH CORPS CAN PULL ALL THE PIECES TOGETHER

What is It?

The Tech Corps will recruit, place, and support volunteers from the technology community to advise and assist schools with the introduction and integration of new technologies into the educational system. Volunteers will provide assistance with local planning, technical support and advice, staff training, mentoring, and classroom interactions. The organization will use the abilities of skilled individuals and groups across the country in an effort to prepare students, teachers, and schools for the 21st century.

What will Be the Benefit to Schools?

There is tremendous energy in our schools to move toward more effective implementation of technology. But the reality is that the available resources are slim. The Tech Corps seeks to provide the human resources that can support and enhance the school's local technology efforts.

The Tech Corps offers schools qualified, enthusiastic individuals who are willing to share their technical talents and experiences with the schools in a volunteer capacity. The "people power" being offered has the potential for offsetting significant expenses which the schools might incur if they sought outside assistance with these projects. In addition, community awareness of and interest in the schools will increase through the involvement and commitment of local citizens who might not otherwise have reason to participate in school activities.

What Will Be the Benefit to the Volunteers?

All too often, individuals wish to volunteer but do not know where or how. The Tech Corps offers a vehicle for volunteering for those individuals who would like to share their time and talents with their local schools. Through the Tech Corps, individuals have the opportunity to give something back to their community and to have a positive impact on kids, schools, and education in their state.

While working with a specific school district, Tech Corps Volunteers will also be part of a larger organization that is having impact on education state- and nation-wide. Volunteers will meet with others throughout the state at state-wide Tech Corps events, learn about projects in other school districts across the nation through the Tech Corps web site, and feel part of an organization that is making a difference.

DRAFT: 8/2/95

NATIONAL TECHNOLOGY HONOR SOCIETY

Purpose. The purpose of the NTHS is to (1) provide an organization through which students can help bring computing and communications knowledge and technology into their schools and (2) recognize and reward students who use their technological expertise to serve their schools.

Function. Members will (1) assist teachers, school administrators, and adult volunteers with integration and use of technology in schools; (2) train teachers, school administrators, classmates, and parents in the use of technology in the schools; (3) participate in mentoring programs with middle/elementary schools; (4) serve as computer system administrators for a class or teacher; and (5) perform other functions which serve the goal of increasing/improving the use of technology in education.

National Sponsor. National Association of Secondary School Principals will manage and guide the NTHS, which will be modeled on the National Honor Society (founded in 1926). NASSP will perform the following functions for the NTHS: create and maintain an organizational structure to support the NTHS on a national level; determine and publish guidelines for local chapters; and publicize the NTHS organization in schools. NASSP will also set NTHS membership selection criteria and define a reward structure.

Potential Faculty Sponsors. Computer science, engineering, tech prep, science, physics, and math teachers; media center managers; other faculty with computing expertise and interest.

Parental Involvement. NTHS can work with the PTA to educate parents on the use computers and the Internet in the schools.

Endorsement. The President's Advisor for Science and Technology, John H. Gibbons, has written NASSP in support of the NTHS concept.



The National Association of Secondary School Principals

1904 Association Drive • Reston, Virginia 22091-1537 • Tel: (703) 860-0200 • Fax: (703) 476-5432

15 August, 1995

Mr. Ed Fitzsimmons
Executive Office of the President
Office of Science and Technology Policy
The White House
Washington, DC 20500

Dear Ed:

First, I would like to thank you once again for inviting the National Association of Secondary School Principals (NASSP) into the discussion with U. S. Tech Corps concerning the formation of the National Technology Honor Society (NTHS). It is very exciting to be working on the foundations for a new organization that will recognize more outstanding students in America's secondary schools. You and your staff have been very helpful in assisting us in these initial planning stages.

I write to confirm the commitment of NASSP to this project. Our involvement in recognizing outstanding secondary students has been demonstrated since 1921 with the founding of the National Honor Society, and through the continuing support of the programs sponsored by our Department of Student Activities (DSA). We view the establishing of NTHS as a great opportunity to reach a group of young people that we currently do not reach and actively involve them in the improvement of America's schools. The link with U. S. Tech Corps in building new school/community partnerships is a unique and promising component of this planning.

Though our specific schedule for development of NTHS has yet to be approved, it is our current intention to move ahead in the planning stages. The existing organizational/administrative infrastructure at NASSP/DSA will allow us to build a strong new organization throughout the country. Our executive staff will be reviewing the concept over the next few weeks, therefore, I request respectfully to postpone providing you with a more precise statement concerning the genesis of the new organization until August 30. If this meets with your approval, I will plan to contact you or Gary Johnson at that point. In the days between then and now, I will forward any additional plans to you as they develop.

Thank you again for this opportunity. I look forward to our future collaborative efforts on behalf of NTHS. Until then, I am

Sincerely yours,

David Cordts
Associate Director, DSA

c: TKoerner, RMarano

Serving All Leaders in Middle Level and High School Education

Founder and Sponsor of: National Honor Society National Association of Student Councils
National Junior Honor Society National Association of Student Activity Advisers

It's a go!

Henry
Skip
Jack

Thanks, Sir.
This is a great one for
technology in schools!
Ed

TECHNOLOGY LEARNING CHALLENGE

COOPERATIVE WORK WITH INDUSTRY

BACKGROUND

The federal government is working with industry, academia, and state and local governments to leverage federal investments in technology, expertise, and facilities by developing commercial products through Cooperative Research and Development Agreements and other mechanisms (such as memoranda of understanding, cooperative agreements). There is a Federal Laboratory Consortium comprised of federal agencies whose purpose is to facilitate the transfer of technology between the Federal Government and others. This Consortium has a committee dedicated to education. While there are processes in place, there has been sporadic activity in this area. Opportunities exist to share the costs of developing learning technology--with lower costs to the Federal government--and improve the quality of the learning technology available commercially.

GOALS

Establish partnerships between the Federal Government, the educational community, and industry to develop innovative learning technologies to provide learning on demand and new methods for addressing educational needs.

Use cooperative agreements to create learning tools that meet both Federal, State and local education and training needs. By 1997, Federal Agencies should have 5% of its learning technology needs addressed through cooperative agreements.

Increase the number of Cooperative Research and Development Agreements in the area of learning technology by 50%.

ACTIONS

Currently, there is little Federal funding to formulate these partnerships. For example, no funds are dedicated to pay for labor or travel to pursue partnerships. Individual laboratories must use overhead funds to pursue initiatives.

Action: Establish a budget for these initiatives.

The Federal Defense Laboratory Diversification Program may serve as a model for establishing a program in learning technology. This program uses cooperative agreements (government funds 50% with industry teams contributing cash or in-kind). Pilot programs should be initiated, based on this experience, for efforts in learning technology.

Action: Create pilot programs involving cooperative efforts between Federal government, educational community and industry.

Barriers

- The educational market is not easily accessible, does not support new technology, and lacks the infrastructure for many products.
- Many high tech simulation and training technology developers lack commercial expertise to enter new markets.

- Government agencies are accustomed to unilateral (contractual) vs. cooperative relationships with industry.

Potential Downside

Some may question the value of government intervention in the marketplace.

Catchy Phrases or Benefits

Cooperative Agreements allow the Federal Government and industry to share the **costs and risks** of developing new technology and commercializing the technology for education. This allows government and industry to combine talents by letting government experts work under the agreement with joint direction from the industry-government team. The federal government is ***moving in a new direction*** through ***partnerships*** with industry, and state and local governments. The approach is a ***partnership*** with America v. a ***contract***. ***The government does not have the answers and resources alone to dictate solutions. Only through cooperative relationships and integrated teams can we address the educational challenges.***

What is being done?

- Panel on Learning Technology Challenge at the National Technology Transfer Meeting in April in Atlanta.
- Cooperative R&D Agreements to commercialize defense training technologies (Air Force and Navy).
- Established Training and Simulation Technology Consortium to commercialize federal simulation and training technology through the TRP program. The Army, Navy, Air Force, and NASA are federal participants with about 20 industry members.

27
placeholder

Executive Action Write-up for Funding Educational Technology (DRAFT)

Prepared by John Cradler and Brenda Kempster

There are many good proposals and plans for connecting learners to the information highway to increase opportunities for learning. We know of models throughout the country where technology has effectively improved teaching and learning in ways not possible with traditional resources. However, without sufficient and sustained funding, education cannot take advantage of what is known about successful technology applications in education. Additionally, without funding, it will not be possible for government and industry to engage in the research needed for educational technology to keep pace with the potential that technology offers to education and training. This executive action is aimed at making available needed funding for technology in education.

What is the goal to be achieved and by when? (goals from the NCC-TET Requirements for Education).

- All learners will have affordable access to the National Information Infrastructure by the year 2000
- Every home and classroom will be connected to the NII by the year 2000
- Applications of the NII will extend into homes, workplaces, schools, institutions of higher education, libraries, arts and cultural institutions by the year 2000.
- A variety of sustained public and private partnerships and funding mechanisms to support education and training uses of the NII will be developed by 1996.

What are the executive actions needed?

- Evaluate all major existing Federal efforts to support development and implementation of technology in education and training and then continue and expand what works the best.
- Encourage State public utilities commissions to use available regulatory and infrastructure funds to establish an education connectivity fund for education (funds from 1% tax on phone rates and the use of funds collected from penalties).
- Encourage the FCC to apply funds from public actions for the benefit of education and learning technologies.
- Encourage all telecommunications service providers to support customer user charges on telecommunications services to help fund education infrastructure (911 or TDD model).
- Request FCC to establish a grant program with proceeds from spectrum actions that would help schools and libraries link up with modern telecommunications systems.
- Establish a national lottery to fund connectivity in education
- Revise all federal technology grants programs to require that states provide a minimum of 25% matching funding as an incentive to use block grants and other permissive education funds to support technology in schools.
- Provides tax breaks to companies as a contingency for their development of technology-based resources that meet national education standards.
- Shift a portion of the DOD/ARPA budget to support the transfer and adaptations of military training technologies to support education needs.
- Ask each Governor and state legislature to establish a technological workforce preparation initiative that calls upon the business and education communities to collaborative find ways to fund education and training for a technological workforce.

What barriers/downsides exist to achieving the goals?

- Consumer groups not favoring utility funds to be dedicate to education
- Telecommunications industry opposing user charges as new tax.
- Lack of understanding about education technology funding needs.
- Competing priorities for use of available funding
- Schools lacking sufficient planning and training for effective technology use
- Resistance to anything interpreted as a tax on services
- Lack of resources to evaluate the cost-benefits of technology in education

What can be done to support the Actions?

- Encourage public/private partnerships to assist in establishing state education infrastructure projects.
- Encourage businesses to support publicizing value of educational technology through image and mainstream advertising.
- Encourage High tech businesses to support volunteerism and release time to allow employees to help wire schools, train teachers, and support technology.
- * Encourage and recognize employee involvement and volunteerism in technology, math and science initiatives in local schools.
- Assist with technology planning, teacher training, connectivity planning, and software training by providing corporate expertise to local school teams.
- Ask the National Governor's Association, the NEA, American Electronics Association, and others to actively support the Presidents goals for technology in education.

Chicken in every pot

- An on-ramp for every learner to the 21st Century Information Highway.

Whats Being Done

- State funding models such as California providing financial matching as an incentive for schools to use block grant funding for technology.
- Video-rental tax in Missouri
- Use of PUC penalty funds from telco providers for education (Minnesota)
- U.S. Tech Corps.
- Pac Tel Education First initiative
- Time-Warner FCC Social Contract
- Bell Atlantic initiative
- Business supported technology grants to schools (Apple and IBM)

Educational Software Institute

PROBLEM STATEMENT: The market is not successfully mediating the supply and demand of educational software

BACKGROUND:

The condition of educational software today is mirrored in the early condition of the Litton microwave oven. The consumer didn't know he wanted it; the supplier didn't get feedback from consumer experience necessary to shape the product more perfectly to consumer needs.

Concerning educational software, what is needed is learning software for the student, as opposed to teaching software for the teacher. A pre-modern example of learning software, which still sells well, is drill-and-practice software in the basic skills. Little to no modern multimedia software for middle and secondary school subjects exists.

The schools don't know they want it; they haven't seen any examples. The structure of the school budget sharply limits expenditures for the category of instructional materials, (which includes textbooks, materials and supplies, and software,) to an average 4% of educational expenditures. School demand for all software (system, productivity and content) is low, estimated at \$750 million in 1994. By contrast, consumer expenditures for 'edutainment' CD-ROMs in 1994, the very first year the industry targeted the home for computers with integrated CD-ROM drives, was nearly \$400 million. In order for all students to learn more, instruction has to be tailored to individual student needs and abilities. Absent computer technology, this is practicably impossible for the teacher at a price the taxpayer is prepared to pay for public education. Absent the necessary content software, schools will soon conclude they are over-investing in computer hardware.

SOLUTION: Educational Software Institute

Functions

- active meeting ground for business and education;
- match technological opportunity to educational needs;
- clearinghouse;
- in the limit, invest in pre-competitive software R&D

Funding for three-year trial: \$5 million

Sources of funding: public-private venture

Organization: probably a federal locus,

- for visibility;
- to attract private sector participation;

-- to assure the confidence of K-12 education

END *****

Arthur Melmed tel 202-244-9056
The Inst. of Public Policy fax 202-393-3914
George Mason Univ.
Fairfax, VA 22030

TECHNOLOGY LEARNING CHALLENGE

NATIONAL INSTRUCTIONAL TECHNOLOGY INFORMATION SYSTEM

BACKGROUND

The Defense Instructional Technology Information System (DITIS) is an information system that enables users to locate information on Interactive Courseware (ICW) used in the DoD.¹ DITIS was developed to provide a centralized source of information on ICW in DoD and to reduce the potential for duplication during new developments. It describes approximately 7,000 items of ICW in terms of subject matter covered, its developers and users, software and hardware requirements, and where it can be obtained. DoD Instruction 1322.20 requires that *all* ICW in the DoD (barring ICW relating to intelligence) be entered into DITIS. The Defense Manpower Data Center (DMDC) maintains DITIS, and provides authorized users with communications software that they can install on their PCs to access the DITIS data base via modem. At the present time, the contents of DITIS is limited to DoD ICW, the use of DITIS is restricted to DoD personnel and ICW developers, and DITIS users must use specialized communication software obtained from DMDC.

GOALS

DITIS is a model of a broader tool that the new Interagency Technology Office might use to support lifelong learning. Outside the DoD, there are thousands of items of ICW potentially available to learners, but there is no simple way to locate items of interest. Hence, one might conceive of a DITIS-like information system created for the purpose of making this information available to the public. This system (call it NITIS for National Instructional Technology Information System) would be modeled on DITIS but with features to make it useful to the general public. Specifically, its contents would include all ICW (and other useful educational software) available from the private sector, government, and in the public domain; and anyone with a computer could access it via Internet Gopher or from a page on the World Wide Web. A reasonable goal is to have a system on line in 12 months and fully functional in 24 months.

ACTIONS

Task a Department of the Executive Branch (Education or Defense) to initiate a collaborative effort with the Federal agencies, private industry, and the public sector, to design, develop, and implement NITIS.

BARRIERS AND POTENTIAL DOWNSIDES

Creating NITIS would be relatively straightforward. The modest cost of creating and maintaining it and of providing Internet access would not be great, and could be added to the ITO's budget. Anyone with computer and modem would be able to access it. If potential NITIS users lacking computer access, then there is an additional requirement to provide such users with access (e.g., by furnishing government surplus computers to communities for use in libraries or other initiatives).

¹ ICW is computer-based courseware whose pace, sequence, and content are controlled by the student.

CATCHY PHRASES OR BENEFITS

A library and schoolhouse in every home - universal access to learning tools and content

WHAT IS BEING DONE?

Aside from the existing DoD capability, there are no other large scale efforts to create an instructional technology information system. Many educational resources are popping up at various sites on the Internet, including information available through a DoED home page, but a comprehensive index of Federal, commercial, and privately developed tools and courseware does not exist. The new Interagency Technology Office is also developing an InterNet Home Page capability to support the Challenge Grant program. This capability could be used as the cornerstone for additional learning technology resource information.

Concept Paper:

The Problem and Our Proposal

There's general agreement that computers, multimedia, and other information technologies have the power to transform the way people learn in the same way that these technologies have changed the way most other information services are delivered. The new technology has the power to put the learner in control by tailoring information to individual needs, preferences and interests. The new systems, in short, may look much less like recent models of mass-production teaching and much more like ancient learning techniques based on apprenticeships, individual tutorials, and play that imitates adult life.

One of the reasons technology has been slow in entering the classroom, however, is the crisis of management that has paralyzed many US public institutions. Suspicion of large government institutions -- often inflamed for partisan reasons -- makes it all but impossible for the national, or even state governments to take a lead in developing or testing the innovations needed. Yet individual school systems lack the resources or the expertise needed to develop new products and do not represent a large enough market to attract developers willing to develop specialized products.. Software innovations are expensive and development costs must be spread across a large market if the products are to be affordable.

We propose a new form of public management that can break this impasse -- a method made possible by the new technology itself. It would permit communities and individual schools to maintain complete control over what their children learn and how they learn it. But it would also give these communities direct access to a nationwide community of scholars, businesses, and public organizations dedicated to providing an increasingly rich menu of learning resources. Local schools could play an active role in setting specifications for the innovations, testing the products. The same system that can provide rich learning experiences for students -- both at school and at home -- can be used to provide instructional opportunities for teachers so that they can stay abreast of developments and learn how to make use of the new technologies. The system can provide an infrastructure for a rich volunteer system where individuals with many different skills and resources could be put in touch with schools needing their help.

One of the attractive features of such a management scheme is that it doesn't require the construction of any new institution or bureaucracy. As a "virtual institution" it would exist only in the new communications infrastructure. The work needed to ensure effective operation of each part of the enterprise (teacher training, volunteer programs, etc.) would be in the hands of organizations already responsible for these tasks. The new infrastructure would, however, make federal and state programs aimed at improved use of learning technologies much more productive and provide an opportunity to organize R&D, aggregate procurement and undertake other activities that require some concentration of funds and resources without threatening local control or independence.

Specifics:

1. The President outlines a national vision, challenging the nation's teachers, students, businesses, and communities to participate and explaining the new model of management being proposed. An electronic "hometown" built on the worldwide web is unveiled. The Secretary of the Smithsonian is named to head the national effort. [James Smithson gave the institution a one phrase charter "increase and diffusion of knowledge". The Smithsonian is one of the few Washington institutions which has both high visibility and a highly favorable reputation. It is non-threatening and a large fraction of its funds come from private sources]
2. The President announces specific alliances which have been formed to accelerate the use of technology in learning. These include:
 - Technology and Learning Challenge grant winners: alliances between schools, local businesses, and high-tech companies matched with small amounts of federal funds
 - The TLC Alliance: A new alliance of foundations pooling resources to advance learning technology [??]. Funding for Challenge Grant winners is announced as an initial offering.
 - Technology Corps: A national network matching technical volunteers from industry with schools needing help in purchasing, installing, or maintaining technology
 - Chapter I Technology Alliance: A voluntary network of chapter 1 schools pooling resources to become more intelligent consumers of information technology and to specify requirements.[????]
 - The Technology Honor Society honoring students who help schools innovate with technology
 - The Business Training Partnership [???] where businesses agree to make instructional material available to employees after work or at home over the net and/or pool resources to offer training on state-of-the-art equipment electronically {fire up the American Society for Training and Development? voluntary standards of practice?}
3. The President announces that the federal government wants to be a good partner in this new alliance providing resources that can be uniquely contributed at the national level -- emphasizing that the choice about how to use these resources remains local. All federal actions would be undertaken in partnership with schools and businesses. Actions include:
 - Making high-quality, interactive programming available to all Head Start schools by the year 2000 [partnership with relevant universities and child care centers][????]
 - Five focused demonstrations of advanced technology in specific learning environments aimed at moving DoD and NASA technology into the market
 - A program conducted with Universities and National Laboratories to use the computer and communication systems installed for students to provide high-quality instruction for all K-12 teachers by [????] {extension or redirection of Eisenhower. Uses the net to break the isolation of teachers.}
 - Making the American history resources of the Smithsonian, the National Park Service (Ford's theater, Constitution Hall, the USS Constitution, etc. etc.) and the national archives available over the net.
 - Making the Job Corps centers models for use of business training technology [partnering with local businesses offering training tools] [????]



UNITED STATES DEPARTMENT OF EDUCATION

OFFICE OF THE SECRETARY

August 17, 1995

MEMORANDUM TO: GENE SPERLING
FROM: LESLIE T. THORNTON
SUBJECT: PRELIMINARY PROPOSED EXECUTIVE ORDERS/EXECUTIVE ACTION

The following sets out a list of proposals or topics for Executive Order or Executive Action:

1. Call on all parents to spend at least 20 minutes a day doing homework or something school-related with their kids, and ask that all grandparents call their grandchildren once a week and talk to them about how school is going (Secretary Riley's idea). Under the right circumstance, the President might be engaged to talk about how he manages to stay involved with his daughter's education; 🖊
2. Challenge every school and parent group in a school to develop a school-family compact about what each will do to work together on behalf of the children to provide a quality education (see attached sample); 🖊
3. Call on business community, higher education community, federal government, others to help ensure that all kids will know how to read by grade 4 (Secretary Riley's idea). To make this tangible and immediate, the business/corporate community could be asked to develop initiatives like allowing leave for employees to tutor kids in reading and/or providing computers, etc. Colleges and universities could develop programs for college students to "Adopt a Future Reader" or "Teach a Child to Read" in their college communities. A partnership could be developed with libraries - local libraries could donate books for college kids to use to teach reading to the kids. Goals could be set and data kept by the various participants. A report could be produced yearly, i.e., this year corporate America helped teach x number of children to read; this year x number of college students in x number of colleges and universities taught x number of children to read, etc.; 🖊
4. Call on various resources including the federal government, business, etc., to help ensure, through direct action, that all teachers be upgraded technologically in programs that aid in teaching children. Teachers could take 2 to 4 weeks of training in the summer, with 4-5 day refresher course for 2 years thereafter (Secretary Riley likes this idea); 🖊

5. Challenge every employer either to match leave or provide flexible leave so that parents and grandparents are able to volunteer to help their kids through tutoring and mentoring in their children's schools or by participating in the children's school events. Some businesses already do this with great success. Note: there was very strong support for this idea from CEOs at the Atlanta Economic Conference; 🍌
6. Establish similar policies for the federal government on encouraging greater participation by parents in schools. The President could establish leave policies within the federal government that would encourage federal workers to help in the schools. For example, at the Department, Secretary Riley established grant of 4 hours of administrative leave a month to tutor, mentor, etc. Many of the employees who participate volunteer at the Department's adopted school, Amidon Elementary. Also, the President could encourage parents receiving federal income maintenance or other assistance to devote time each day to helping their children, including pre-school children, to learn; 🍌
7. Establish an inter-agency task force to improve educational opportunities in Empowerment Zones; 🍌
8. Direct all departments and agencies to select one of the education goals to pursue achievement through cooperative relationships and/or have agencies develop technical assistance plans with schools and businesses; 🍌
9. The President could direct/encourage each agency to adopt a school. Because most departments have regional officers and/or agencies all over the country, there are schools all over the country that could be adopted; 🍌
10. Explore strengthening existing National Service ties to elementary and secondary education – particularly in high poverty schools; 🍌
11. Set aside a day for national teacher appreciation and for noting progress, as well as remaining work to be done in education (in addition to the Teacher of the Year ceremony); 🍌
12. Establish inter-agency task force on improvement in high poverty schools. Each agency would be asked to consider what further contributions could be made to educational improvement in inner city schools within its mandate; regional offices could be asked to help; 🍌

13. Waivers: Explore whether agencies other than ED have waiver provisions that can be used to reduce regulatory burden for State and local educational agencies; 🖊
14. Announcement/initiative on charter schools; 🖊
15. President could get agreement by colleges that they would adopt 6th grade classes or whole elementary schools. This would hit both elementary and secondary and higher education, and focus attention on the responsibility that higher education should take for helping to prepare kids for college; 🖊
16. Create a Federal Technology Corporation. In every Federal agency there are knowledgeable people who have tremendous technology expertise, from know-how about planning, to getting on the Internet, to creating home pages on the World Wide Web. In addition to the agencies themselves, are all of the Federal Laboratories and Supercomputing Centers, – many of these are already working with schools – but they could do much more; 🖊
17. Direct the agencies with education and training programs (Department of Education, Labor, HHS, NSF, NASA, Energy, DOD) to examine how existing programs resources (e.g., Title I or the Eisenhower Professional Development) could serve dual purposes: programmatic goals and effective use of technology within those programs. For example, when teachers are working on new curriculum in science, math or social studies, they should also be incorporating use of computer, online network, and other technology resources; 🖊
18. Direct agencies to examine rules and regulations in programs that create unnecessary barriers to use of technology. For example, there are rules about purchasing computers, that make it impossible for districts to consider leasing arrangements that in the long run might be more effective solutions to the funding bottleneck; 🖊
19. Direct that spare/surplus computing and communications equipment be donated or made available for the cost of transportation to educational institutions (combined with #1 have Federal Technology Corporation or volunteers from the private sector, make this equipment “user ready;” 🖊
20. Direct that excess capacity of Federal satellite transponders and other communications facilities be made available for educational use at low or no cost; 🖊

21. Encourage departments and agencies to look at unexpected funding or other resources to help education. For example, rebuilding LA schools with disaster funding post the LA earthquake provided that rebuilt schools be wired for computers.

SAMPLESAMPLE***SAMPLE***SAMPLE***SAMPLE***
**SUPPORT THE FAMILY INVOLVEMENT PARTNERSHIP
FOR LEARNING**

STRONG FAMILIES, STRONG SCHOOLS
Family-School Compact for Learning

Schools and families across America are increasingly accepting mutual responsibility for children's learning. They are taking the initiative to develop family-school partnerships known as "compacts." By working together, exchanging information, sharing decision making, and collaborating in children's learning, everyone can contribute to the educational process. As a school community, we support family-school compacts and affirm the importance of family involvement in students' learning.

We commit to including families and community members in the daily life of the school by:

1. **Sharing responsibility** at school and at home to give students a better education and a good start in life.

-- Our school will be welcoming to parents, reach out to parents before problems arise, offer challenging courses, create safe and drug-free learning environments, include parents in school site decisions, organize tutoring and other opportunities for parents to help improve student learning, and (ADD YOUR OWN ACTIVITY).

-- Our parents will monitor student attendance, homework completion and television watching; become acquainted with teachers and administrators, when possible, volunteer in school and participate in school decision making, and (ADD YOUR OWN ACTIVITY).

2. **Providing effective two-way communication**, including reducing education jargon and breaking down language barriers.

3. **Building the capacity** for families to help children succeed in school and for school staff to work with families.

4. **Improving family involvement efforts** by reviewing progress annually and strengthening cooperative efforts.

5. ADD YOUR OWN COMMITMENT.

President, Parents' Association

Teacher/Faculty Representative

Principal

Student Representative

Superintendent

Community/ Business Partner

Mayor

U.S. Secretary of Education

**...SUPPORT THE FAMILY INVOLVEMENT PARTNERSHIP
FOR LEARNING...**

THE EMPLOYER'S PROMISE

A strong and vigorous economy, for our employers and our nation, depends upon an educated, skilled, and competent citizenry. Tomorrow's citizens, those who are getting their basic training in today's schools, are our long-term investments for the future.

Employers play an important role in the school-improvement efforts on local, state, and national levels. We can now multiply the effectiveness of such efforts by enlisting our current employees as partners in the campaign to support and better the American educational system. Any company, regardless of its size, can take steps to support parents in its workforce and to support local education.

Small investments that enable employee participation in students' academic success, and in our education system, lead to a win/win for everyone.

- **EMPLOYERS WIN** by helping prepare a highly skilled and globally competitive workforce.
- **EMPLOYEES WIN** by making positive differences in children's education and in their local schools.
- **SCHOOLS WIN** from increased parental and community involvement.
- **STUDENTS WIN** from better education.

We recognize there are many ways to get started.

- Contact a local school to discuss opportunities for cooperation.
- Explore with employees ways in which they can help children learn.
- Explore with employees ways in which they can help local schools better educate their students.
- Explore policies and practices to encourage and enable employee involvement in schools and learning.
- Contact the Family Involvement Partnership for Learning for information.

We commit to

- Identify a contact person, authorized to explore and develop options for company involvement in our family-school-community partnership program;
- Take action to implement program; and
- Share best practices by evaluating our program annually.

A Statement of Commitment

We commit our organization to family-friendly practices and partnerships to support children's learning.

SIGNED: _____ **PRESIDENT OR CEO:** _____ **DATE:** _____
FOR (Company or Organization): _____
CONTACT PERSON: _____
ADDRESS: _____
CITY: _____ **STATE:** _____ **ZIP:** _____
FAX: _____ **E-MAIL:** _____

CLOSE HOLD

TEMPLATE FOR EXECUTIVE ACTION WRITE-UPS

As we work towards an event on Educational Technology, we need to flesh out any and all possible actions that the Executive Branch could take to further the use of interactive learning technologies in our nation's schools. As a part of this process, we would like to have a 1-2 page write up for every potential executive action that could be taken in this area. **First drafts of these write-ups will need to be completed by our next meeting on Friday, September 1, at 11:00 (room TBD) so time is short!** Before this meeting on Friday, please send your drafts to the point person in the relevant areas:

- Computers in the Classroom: Linda Roberts, DoEd, 401-1444 (ph), 401-3093 (fax), lroberts@ed.gov (email)
- Connecting the Classrooms: Tom Kalil, NEC, 456-2892 (ph), 456-2223 (fax), tkalil@arpa.mil (email)
- Engaging Content: Mike Schmidt, DPC, 456-5567 (ph), 456-7028 (fax) schmidt_mt@a1.eop.gov (email)
- Teacher Training: David Stevenson, DoEd, 401-3389 (ph), 401-3095 (fax)

Life-long Learning — *ED*
If you don't know which area your write up fits under (or if it spans several areas), please send it to Mike Schmidt, at the numbers listed above. When drafting these 1-2 pagers, please make sure they answer the following questions:

1. What is the goal to be achieved and by when? (Be as specific as possible. For example: 10% of schools would receive X by 1996 and 30% by 1997)
2. What actions must be taken? Specifically, what executive actions can we take without Congressional action?
 - How can we more effectively target and leverage existing federal programs to accomplish this goal?
 - How can FY97 money be used?
 - What regulatory barriers can we remove?
 - What actions will we expect the private sector or local/state school officials to take? (be specific where possible)
 - What will be done to engage the private sector or local/state schools in the initiative?
3. What barriers exist to achieving this goal?
4. What are the potential downsides to taking these actions?

National Technology Plan

VII Plan

SECRET

5. Are there any catchy, "chicken in every pot" analogies that could be used to describe this action?
6. What is being done today by the public and private sectors to achieve this goal?

POSSIBLE ACTIONS

On the following pages, 30 possible actions that have been raised so far are listed out along with the person/agency responsible for fleshing each one out. This list is a work in progress -- hopefully we will see a number of additional innovative ideas that will make this list pale in comparison.

set out next yr's challenge

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
1. Announce Challenge Grants - Building up	Education/Interagency Technology Office (ITO)
2. Executive Order allowing government workers to use flextime to do tech corps activities	OSTP and DPC
3. Executive Order to streamline GSA process of getting excess government computing and other telecommunications equipment into schools	OVP
4. "Electronic Hometown" Web site for communicating lessons learned/federal technology available	OSTP (Julie)
5. Coordinated Federal R&D in Learning Technologies and Applications <i>ITD exp 1/87</i>	OSTP (Henry)
6. Providing digitized Federal resources from technical agencies (NASA, NOAA) and cultural agencies (Smithsonian, Archives, Park Service, etc.)	OSTP (Henry)
7. Chapter 1 Actions to promote use of technology in schools (i.e. Software/Hardware Purchasing Consortia)	Education (Stevenson)
8. Revise regulations to allow schools to lease rather than purchase technologies	Education (Stevenson)
9. Head Start Actions to promote use of learning technologies	DPC and HHS (TBD)

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
10. Eisenhower Program Actions to promote greater teacher training in use of technology for teaching (regulatory action redirecting Eisenhower funds to tech training?)	Education (Stevenson)
11. Americans With Disabilities education program actions to expand use of learning technologies	Education (Stevenson)
12. Job Corps Program Actions to promote use of learning technologies in Job Corps Centers	Education ITO (DOL staffer) <i>VED</i>
13. Adult Basic Education Program Actions to promote use of learning technologies	Education (Stevenson)
14. One-Stop Center Actions to promote use of learning technologies	Education ITO (DOL staffer)
15. Technology Corps	OSTP (Fitzsimmons)
16. National Technical Honor Society	OSTP (Julie)
17. Expansion of Tech Corps to facilitate donations of equipment to schools	OSTP (Fitzsimmons)
18. Private consortia for supporting Challenge Grant Program	Education ITO with OSTP (Henry) and DPC
19. Spectrum allocation for education uses	NEC (Kalil) and DOC (Sallet)
20. Use of excess government satellite or other communications capacity	OSTP (Jeff) with NEC (Kalil) and DPC
21. Improved use of cable public access channels	NEC (Kalil)
22. Use interactive instructional facilities in National Guard Armories during down-time	(DOD with OSTP)
23. DOD CREADAs with developers of instructional software	DOD with OSTP
24. Sun proposal to get "army of engineers" out to pull wire in schools	NEC (Kalil)

Training

Contra

5

8

5

Writing

Writing

more

upc

connect

connect

connect

Contra

Writing

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
Wife 25. NTIA Spectrum transfer	NEC (Kalil)
CMB 26. Challenge to University Community to increase content available and to do quality control	OSTP - Henry
Comp 27. Tax Incentives - Denation	OSTP (Fitzsimmons) and Treasury
28. CEO Blueprint for Wiring Classrooms	
29. Social Contract with Time Warner to provide free internet access to schools -- expand to other providers	Sallet
TRAIN 30. Challenge to Universities to include technology training in Certification of teachers	Linda

(715) 413 4137
- Call (raig) -



GOVERNMENT BUSINESS RELATIONS

MEMORANDUM

TO: Kate Smith Carr
FROM: Alyssa Cotler
RE: Federal Information Exchange
DATE: August 30, 1995

In preparation for the President's upcoming speech on science and technology, I understand that the White House is looking for examples of how the private sector contributes to the implementation of new technologies.

One of our clients, Federal Information Exchange (FIE), is involved in gathering and disseminating information from the executive agencies to the private sector and academic community. FIE has partnerships with nine of the executive agencies including Department of Energy and the Department of Defense. FIE currently provides to the academic community an on-line system called Fedix that identifies various research and development opportunities within these agencies. Fedix also makes available a monthly inventory of several thousand pieces of excess and surplus research and computer equipment that DoE and DoD provide free to users.

Fedix could serve as a government-wide pilot for a national program of equipment dissemination to K-12 public schools with no budget impact.

FIE would like to speak to appropriate White House officials and introduce them to Fedix. Their service has proved invaluable to both the agencies and the institutions looking for one-stop information centers. Questions regarding FEDIX may be answered by Travis Dungan of FBA (202-833-5881), Jean Morrow, Program Manager at DoE (202-903-2452), or John Rodman, President of FIE (301-975-0103). Any recommendation you can make would be very much appreciated.

A NATIONAL EQUIPMENT DISSEMINATION PROGRAM FOR K-12 SCHOOLS

THE ISSUE: At present, two-thirds of U.S. elementary and secondary school students have limited or no access to the Information Highway. Of the one-third who do, 50% attend schools where access is limited to a single classroom or lab. Nationwide, this means only 3% of our classrooms are properly equipped to take full advantage of the wealth of educational information available on the Information Highway.

THE CURRENT SITUATION: Each month, federal agencies dispose of thousands of pieces of excess/surplus computer and scientific research equipment. Eventually, much of the equipment sits idle in warehouses for months or years. During this process, the equipment is purchased as scrap, simply abandoned or destroyed.

IT DOESN'T HAVE TO BE THIS WAY: The American Technology Preeminence Act of 1991 (Public Law 102-245; Sec. 303), amended the Stevenson-Wydler Act, provides that "the head of any Federal agency or department may give research equipment to an educational institution or non-profit organization for the conduct of technical and scientific education and research activities. Title of ownership shall transfer with a gift under the section."

A PRIVATE SECTOR SOLUTION: A small Maryland-based company already has a solution to this problem. Federal Information Exchange's FEDIX on-line system, available on the Internet, provides comprehensive information on federal research opportunities to the higher education community nationwide. FEDIX also makes available an inventory of Department of Energy and Department of Defense excess/surplus equipment information on-line to the higher education community. Much of this equipment would be of immediate benefit to DC Schools. *More than 8,000 items are made available through FEDIX each month, including computers, printers, modems, spectrometers, lab research equipment, copiers and fax machines.* This innovative program is enabling DoD and DoE to reduce their excess/surplus equipment inventories. All equipment is free of charge to the customer.

At present there are no equivalent electronic dissemination efforts for K-12 schools similar to the DoD and DoE programs for higher education. FEDIX could also easily serve as a government pilot for a national program of equipment dissemination to K-12 schools.

CONCLUSION: There is an immediate vehicle for getting computer and related equipment into our nation's K-12 schools with no budget impact.

#2 to volunteer in schools
#5 add ILTo

Add to List

→ New, 5th,
category

Ideas and Bumper Stickers from "Core Group"

Barrie
Category

Ideas

- Educational Commercials embedded in Windows 95 updates. Other ^{Don} #5 is Life long learn.

SPA? - ✓

Tax Incentives

- Teachers write off computer @ home office
- Individuals (families) get credits for investing in technology like energy credits in the 70's.
- Worker retraining - Software - Hardware

used for learning

(5)

- Theme-- "Let's reduce the Learning Deficit"
We have best business- best Colleges- best R&D in the world
Why do we have a learning deficit?

GA
Reading
Don

- ✓ Business can offer every home a free or low cost rental terminal to connect to internet
- business initiative
- profits come from usage

other

- Fireside chat with President on internet

- Video of President with kids with going on in background

- ✓ Have President challenge business to come up with \$500 Million and ask communities to match it--Challenge Grant (CG) -- increase CG funding
offer 500 Mil and over 5 yrs. another

Event

- ✓ Cite top CG proposals (San Diego, Scripts, and Sea World with schools doing math, science using oceanography as venue)
#1

Barrie
#5

Link medical technology R&D and Training into Education message to show lifelong learning is part of a healthy, educated citizenry - distance Medicine (great demo's are ready now)

→ Direct Federal Agencies to make federal E+T technology resources easily and widely available.

Paper

- ✓ - CBO's Plan for wiring schools
- ✓ - Institute for $\sqrt{E+T}$ R+D
lifelong learning
- ✓ - Challenge Industry to build a low cost P.C.

ISME

Barrie #4

Business can provide an ^{training} apprentice and follow-on mentoring ~~program~~ to teachers - 3 months each summer--existing prototype in Silicon Valley led by Platt and Seaborg

- Ask business to adopt school to work in their community as a technology initiative

- Base closures can be turned to high tech training centers that allow small business to partner and showcase learning
 - Federal conversion dollars can be sent to states to be distributed under state rules, not FAR's (Federal Acquisition Reg's)

MSG

- Play up successes of technology used for disadvantaged- blind - deaf-etc.-- great demos available now

MSG

- Connect to retirement homes to the web to get on line tutors for kids and small businesses

- ~~Transition released Military to tech advisors to schools - "troops to teachers" program~~

- ~~Tax smoking with proceeds going directly to Educ Techn~~

- ~~Tax violent video games for Educ software~~

- ~~National lottery for Educ Tech, or encourage state lotteries~~

add to
tax incentives

- ✓ Set aside one dollar on tax form to:
 - go to universal service
 - fund for connecting schools
 - C.G.

MSG

- Let US become the major education provider to the World - English has already become the language of the internet - our higher Education is the magnet that draws the world to the U.S.

- Task agencies to:
 - use emerging technology learning tools--language tools (CIA, MIT,,

~~Language Tutors) and natural language tutors to pass on
education/training/health information~~

- ~~Eisenhower program used for technology only~~

Bumper Stickers

- **Let's reduce the learning deficit**
- Learning - America's critical resource
- Learning - America's critical technology
- Today's student - tomorrow's future
- The Geek will inherit the Earth :-)
- Re-education equals good jobs
- Learn to earn
- Dive into the Third Wave
- Ride the crest of the digital age
- I love (heart logo) learning
- Honk if you love (heart logo) technology
- Honk if you love (heart logo) learning
- Learning - the competitive edge
- **Get smart America**

add:
Nationalize the
issue - not the
solution

add
Don's

- Learning for tomorrow
- Tomorrow is today
- Jobs develop leaders
- Be Smart - Educate
- Prevent the dunning of America
- Learn the Solution
- Learning is America's window to the future - Gates will like this one
- It's Education Stupid!
- Lifelong learning for long productive lives
- Learning America's greatest product
- There is rationale for having a broader message--**life-long learning** --we need to understand the size of audience and how they feel that they will benefit.
- **What is the Size of the Voter Blocks:**
 - Internet users-30Mil
 - K-12-?
 - Colleges-?
 - Workers-?
 - Retirees-?
 - Community Colleges-?

Last idea

Gerstner may take the lead for us in pulling Businesses together for an early meeting for the President!

CLOSE HOLD

TEMPLATE FOR EXECUTIVE ACTION WRITE-UPS

As we work towards an event on Educational Technology, we need to flesh out any and all possible actions that the Executive Branch could take to further the use of interactive learning technologies in our nation's schools. As a part of this process, we would like to have a 1-2 page write up for every potential executive action that could be taken in this area. **First drafts of these write-ups will need to be completed by September 5, so time is short!** Any rough drafts that you could send to us by Friday, September 1 would be greatly appreciated. Please email your papers to swiss@ostp.eop.gov and CC: fitzsimmons@ostp.eop.gov. (or call Julie Swisshelm at 456-6041 if you do not have e-mail capability). When drafting these 1-2 pagers, please make sure they answer the following questions:

1. What is the goal to be achieved and by when? (Be as specific as possible. For example: 10% of schools would receive X by 1996 and 30% by 1997)
2. What actions must be taken? Specifically, what executive actions can we take without Congressional action?
 - How can we more effectively target and leverage existing federal programs to accomplish this goal?
 - How can FY97 money be used?
 - What regulatory barriers can we remove?
 - What actions will we expect the private sector or local/state school officials to take? (be specific where possible)
 - What will be done to engage the private sector or local/state schools in the initiative?
3. What barriers exist to achieving this goal?
4. What are the potential downsides to taking these actions?
5. Are there any catchy, "chicken in every pot" analogies that could be used to describe this action?
6. What is being done today by the public and private sectors to achieve this goal?

POSSIBLE ACTIONS

On the following pages, 23 possible actions that have been raised so far are listed out along with the person/agency responsible for fleshing each one out. This list is a work in progress -- hopefully we will see a number of additional innovative ideas that will make this list pale in comparison.

[Handwritten signature]

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
1. Announce Challenge Grants	Education/Interagency Technology Office (ITO)
2. Executive Order allowing government workers to use flextime to ^{volunteer in} tech corps activities _{schools eg.}	OSTP and DPC
3. Executive Order to streamline GSA process of getting excess government computing and other telecommunications equipment into schools	OVP
4. "Electronic Hometown" Web site for communicating lessons learned/federal technology available	OSTP (Julie)
5. Coordinated Federal R&D in Learning Technologies and Applications -- 1470	OSTP (Henry)
6. Providing digitized Federal resources from technical agencies (NASA, NOAA) and cultural agencies (Smithsonian, Archives, Park Service, etc.)	OSTP (Henry)
7. Chapter 1 Actions to promote use of technology in schools (i.e. Software/Hardware Purchasing Consortia)	Education (Stevenson)
8. Revise regulations to allow schools to lease rather than purchase technologies	Education (Stevenson)
9. Head Start Actions to promote use of learning technologies	DPC and HHS (TBD)
10. Eisenhower Program Actions to promote greater teacher training in use of technology for teaching (regulatory action redirecting Eisenhower funds to tech training?)	Education (Stevenson)
11. Americans With Disabilities education program actions to expand use of learning technologies	Education (Stevenson)
12. Job Corps Program Actions to promote use of learning technologies in Job Corps Centers	Education ITO (DOL staffer)

ACTION	PERSON/AGENCY RESPONSIBLE FOR WRITE-UP AND FOLLOW-UP
13. Adult Basic Education Program Actions to promote use of learning technologies	Education (Stevenson)
14. One-Stop Center Actions to promote use of learning technologies	Education ITO (DOL staffer)
15. Technology Corps	OSTP (Fitzsimmons)
16. National Technical Honor Society	OSTP (Julie)
17. Expansion of Tech Corps to facilitate donations of equipment to schools	OSTP (Fitzsimmons)
18. Private consortia for supporting Challenge Grant Program	Education ITO with OSTP (Henry) and DPC
19. Spectrum allocation for education uses	NEC (Kalil) and DOC (Sallet)
20. Use of excess government satellite or other communications capacity	OSTP (Jeff) with NEC (Kalil) and DPC
21. Improved use of cable public access channels	NEC (Kalil)
22. Use interactive instructional facilities in National Guard Armories during down- time	DOD with OSTP
23. DOD CREADAs with developers of instructional software	DOD with OSTP

DRAFT
TECHNOLOGY LEARNING CHALLENGE
ADMINISTRATION INITIATIVES

A. The Message:

- Why is it needed?
 - The Nation is behind National competitors in Education
 - We are facing stiff global competition for jobs
 - Nature of work changing - new skills needed on continual basis
 - Life Long Learning will be necessary to keep the nation prosperous in the next century
 - We need to do more than simply focus on reducing the Budget deficit
 - We need to overcome our current difficulties in Training and Educating our citizens
- Vision
 - To do so, we must initiate a national program to reform our Learning Infrastructure
 - We need a national Vision to guide us (see Strategic Plan)
 - Provide each child and worker - family with tools to dramatically improve their learning productivity (2 sigma chart)
 - Connect homes, schools, libraries, etc
 - Initiate collaborative efforts with Schools, Parents, Local Communities, and Business
- Resources that can be Leveraged
 - Every child and member of the workforce is an important national resource
 - US leading the world in creation of new and exciting tools - e.g. the InterNet, etc
 - We have best computer and software developers in the world
 - Our Colleges and Universities are second to none
 - Federal Agencies, particularly NASA and DOD, have been investing heavily in Learning Technology
 - We have the know how to dramatically reform education and training and as a position ^{result. ensure} the U.S. as leaders in the next century

B. Possible Federal Action:

- Announce Challenge Grants
 - Cite top C.G. proposals (San Diego, scripts, Sea World, schools doing math, science using oceanography as venue)
- Exec Order establishing ILTO
- Coordinated Federal R&D under Interagency Learning Technology Office w SI director
- Direct ARPA to work with Industry to develop "Set-Top-Box"

- Exec order allowing government workers to use flextime to do tech corps activities
- Exec Order to GSA to streamline excess computing equipment
- Improved Web site for communicating lessons learned/federal technology
- Create Digital Resources from Tech Agencies (NASA, ^{DoD}NOAA) and SI, Archives, Park Services
- Software/Hardware Purchasing Consortia of Chapter 1 Schools to drive private markets
- Revise regulations allowing leasing instead of purchasing
- Interactive Tools for Head Start
- Direct Eisenhower Training Funds to Technology training
- Expanded program using technology in Americas with Disabilities (education)
- Technology for Job Corps Programs
- Base closures can be turned to high tech training centers that allow small business to partner and showcase learning
 - Federal \$ can be sent to states to be distributed under state rules, not FAR's (Federal Acquisition Reg's)
- Transition Military to tech advisors to schools - "troops to teachers" program
- Adult Basic Education
- JTPA
- Perkins
- One Stops

C. New Private Partnerships:

- Technology Corps for helping Schools Plan, install, and maintain technology 12 state systems (?) by end of 1996, all states by 1998(?)
 - private donors/volunteer time (Underway)
- National Technology Honor Society existing nonprofit (Underway)

- Expand Tech Corps to facilitate donations of equipment (computers and communication)
- Private Consortia for supporting Challenge Grant development (major foundations)
- Other Partnership w Industry in Promoting Learning Technology
 - Commercials embedded in Windows 95
 - Business to provide an apprentice and follow-on mentoring program to teachers - 3 months each summer
 - Ask businesses to sponsor a school to work - virtual apprentice program
- Explore the potential of an Industry partnership: every home would be leased a “set-top-box”
 - would support phone, cable, ISDN, and eventually T3
 - include CCTV and internet See You/See Me capability
 - Business profit from usage:
 - phone lines, Internet server, video-on-demand, home shopping, and of course access to new market of on-line interactive learning materials

D. Public Participation:

- Tax Incentives
 - Build on the Middle Class Bill of Rights
 - Teachers write off computer @ home office and technology training
 - Individuals (families) to invest in technology: hrdw, sfw, crw (like energy credits in 70's)
 - Set aside one dollar on tax form to: 1) go to universal service; 2) fund for connecting schools; 3) C.G.

E. Communications:

- Support Snowe-Rockefeller
- Spectrum Allocation for educational uses
- Excess government satellite or other communication capacity
- Improved use of cable public access channels

F. Methods to Communicate the Message:

- Fireside chat with President on internet
- A Virtual Town meeting between President, Industry Leaders, Small Businesses, Teachers, University Presidents, Parents, and Children to discuss Education and Training needs and Methods to Improve
 - President requests suggestions from all the above
 - Comes back 30 days later with a National Plan
- President challenges businesses to come up with \$500 Million

- Link medical technology to R&D and Training into Education message to show healthy, educated citizenry underlying
 - distance Med (great demo's are ready now)
- Emphasize Human Issues:
 - the successes of technology used for disadvantages - blind - deaf
 - connection to retirement homes - permit senior citizens greater access to information, resources, learning themselves and helping others

G. Slogans:

- Learning - America's critical resource
- Learning - America's critical technology
- Today's student - tomorrow's future
- Re-education equals good jobs
- Learn to earn
- Dive into the Third Wave
- Ride the crest of the digital age
- Learning - the competitive edge
- Get smart America
- Learning for tomorrow
- Jobs develop leaders
- Be Smart - Educate
- Learn the Solution
- Learning is American window to the future
- Let's reduce the learning deficit
- Lifelong learning for long productive lives
- Invest in learning - It makes Sense!
- Technology Learning Challenge - It makes Sense!
- Connect America to the Learning Challenge
- Every child a genius - every worker a success

H. Voter Interests:

- Rationale for life-long learning:
 - 37 Million voters out of 250 Million people
 - Break out demographics by interest in
 - K-12
 - College
 - Workers
 - Retirees



The National Association of Secondary School Principals

1904 Association Drive • Reston, Virginia 22091-1537 • Tel: (703) 860-0200 • Fax: (703) 476-5432

15 August, 1995

Mr. Ed Fitzsimmons
Executive Office of the President
Office of Science and Technology Policy
The White House
Washington, DC 20500

Dear Ed:

First, I would like to thank you once again for inviting the National Association of Secondary School Principals (NASSP) into the discussion with U. S. Tech Corps concerning the formation of the National Technology Honor Society (NTHS). It is very exciting to be working on the foundations for a new organization that will recognize more outstanding students in America's secondary schools. You and your staff have been very helpful in assisting us in these initial planning stages.

I write to confirm the commitment of NASSP to this project. Our involvement in recognizing outstanding secondary students has been demonstrated since 1921 with the founding of the National Honor Society, and through the continuing support of the programs sponsored by our Department of Student Activities (DSA). We view the establishing of NTHS as a great opportunity to reach a group of young people that we currently do not reach and actively involve them in the improvement of America's schools. The link with U. S. Tech Corps in building new school/community partnerships is a unique and promising component of this planning.

Though our specific schedule for development of NTHS has yet to be approved, it is our current intention to move ahead in the planning stages. The existing organizational/administrative infrastructure at NASSP/DSA will allow us to build a strong new organization throughout the country. Our executive staff will be reviewing the concept over the next few weeks, therefore, I request respectfully to postpone providing you with a more precise statement concerning the genesis of the new organization until August 30. If this meets with your approval, I will plan to contact you or Gary Johnson at that point. In the days between then and now, I will forward any additional plans to you as they develop.

Thank you again for this opportunity. I look forward to our future collaborative efforts on behalf of NTHS. Until then, I am

Sincerely yours,

David Cordts
Associate Director, DSA

c: TKoerner, RMarano

Serving All Leaders in Middle Level and High School Education

Founder and Sponsor of:

National Honor Society
National Junior Honor Society

National Association of Student Councils
National Association of Student Activity Advisers

It's a go!

Henry
Skip
Jack
This is a great one for
technology in schools
Ed
Thanks, Sir.

Can Technology Support a Jump in Learning Productivity?

Application of several technologies, when taken together, have the potential to promote a revolution in learning productivity -- the rate of learning, the access to learning, and the enjoyment of learning. The discussion and charts below illustrate this.

Rate of Learning

Research shows that tutoring provides learning at a much faster rate than class room instruction. Figure 1 illustrates this point. It shows the mean and distribution of students for learning rates for two populations -- those learning in the class room, and those learning from tutors. The tutored learning distribution is two standard deviations to the right of class room learning.

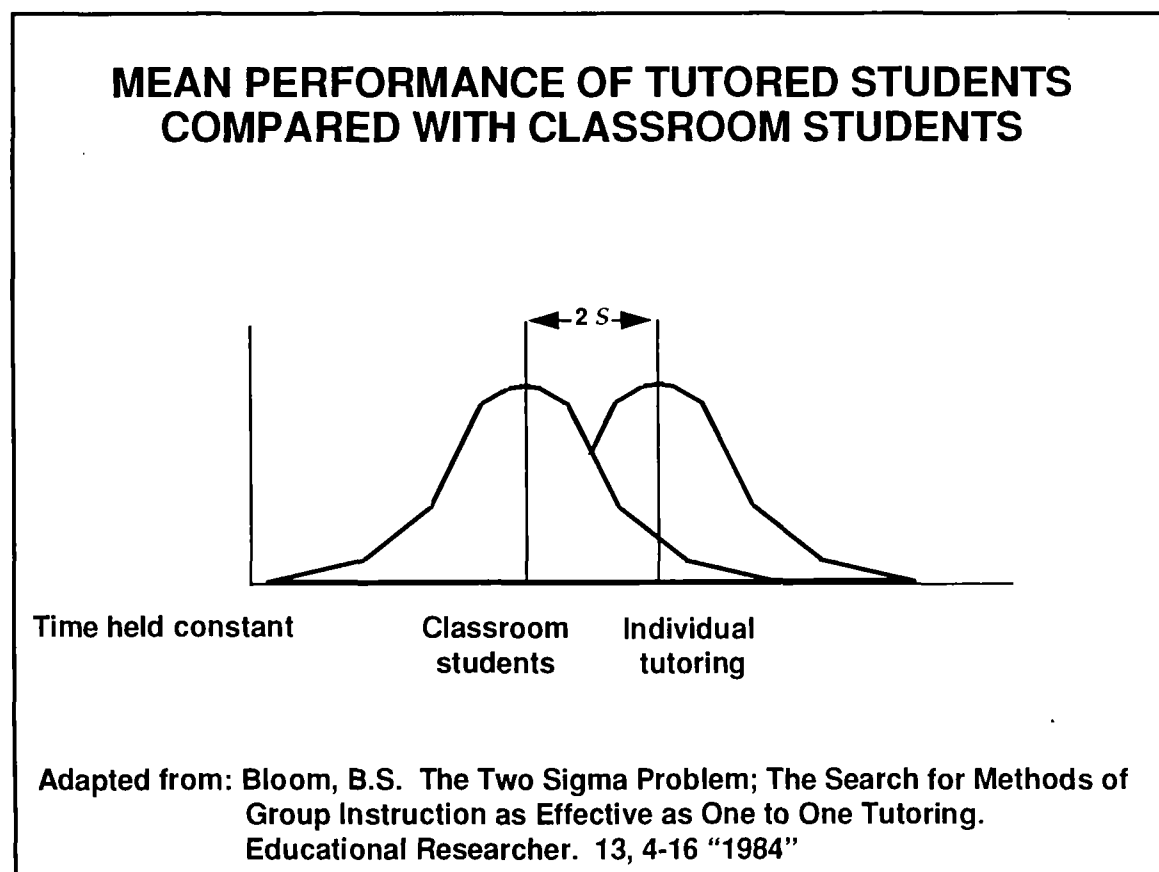


Figure 1

This figure shows that tutoring is a very powerful instrument for learning productivity. It is, however, impractical to use widespread tutoring as a device to reach vast portions of the population. An alternative, however, is the application of interactive computer courseware. This software replicates at least some of the

attributes of tutoring. It allows students to some degree to learn at their own pace, to follow their own exploration of the subject, and to learn in a way more compatible with their individual mental processes. To this point, such interactive courseware has achieved about a one standard deviation improvement over class room instruction. While not matching tutoring, this is still a huge increase in learning rate, and much more practical in terms of widespread application. Further, continuing research is attempting to find even greater gains in this application of technologies to learning rates.

Access to Learning

The National Information Infrastructure (NII) -- the Information Superhighway -- makes possible near universal access to the high productivity learning software, including that discussed above. In principle, such software can be sent on demand to any home or workplace with work station consisting of a personal computer with a modem connecting it to the Internet or follow-on infrastructures. If such work stations were to be proliferated throughout society, then everyone throughout the various social and economic strata could have access to the same high powered learning technology that otherwise would be available primarily to the elite.

Figure 2 illustrates this point. It is a notional chart not based on actual data, but

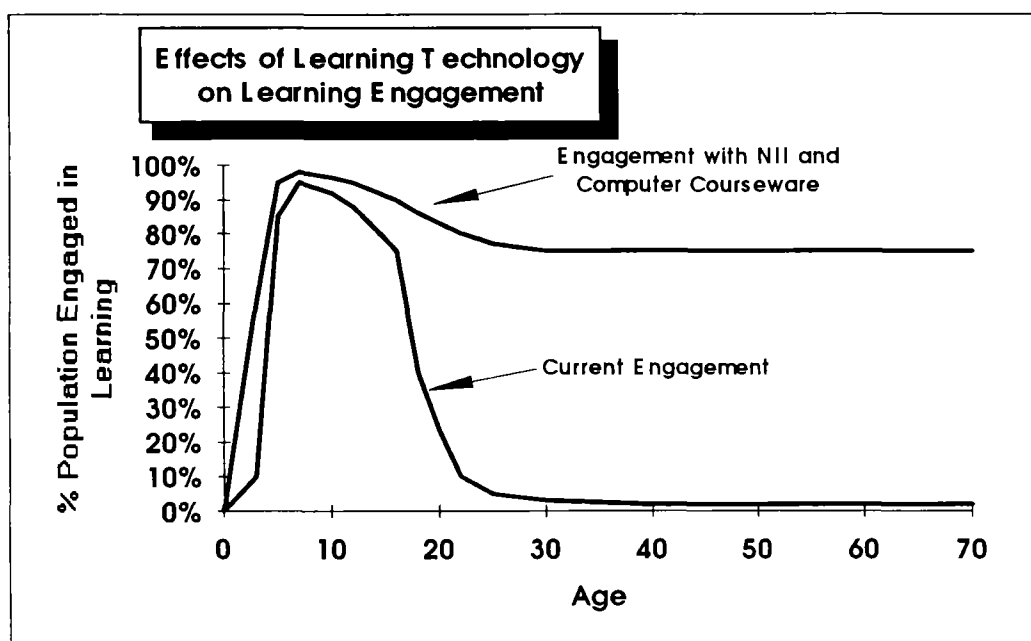


Figure 2

the general character of its curves are probably correct. The figure shows that the percent of the US population engaged in learning as a function of their age. Currently there is a steep rise in learning engagement at about age 5 that probably begins tailing off at middle school, falls sharply after high school and may virtually stop after those in graduate school complete their work. With universal

access afforded by the NII, the percentages of those engaged in learning could be higher throughout -- especially for the later years.

This increased access could have particularly profound implications for those that are socially, economically or physically disadvantaged. Figure 3 shows what this effect might be. It illustrates that there is probably a large gap in learning engagement between those in poverty and the economic elite in our society. If, however, easy-to-use, effective, entertaining, inexpensive learning software were available via the NII, the poverty segment of the population would have at least the opportunity to learn at a high rate both the basic skills of a good education, and specialized job skills needed for productive employment.¹

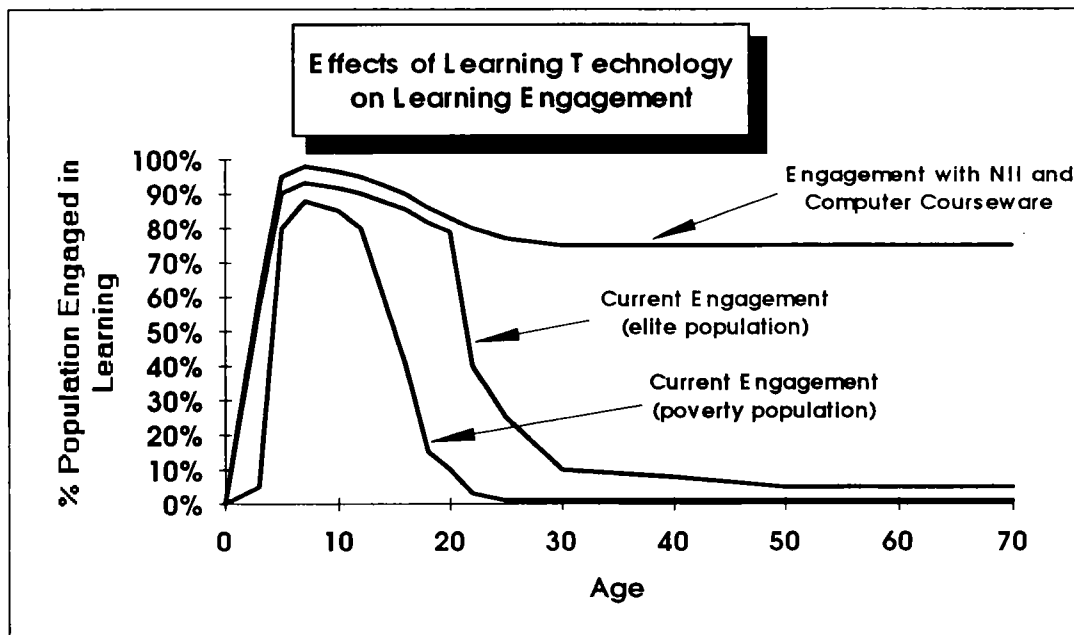


Figure 3

Enjoyment of Learning

Most of American youth -- and adults for that matter -- find more fun in playing video games or watching TV than being engaging in class room learning. There exist, however, examples of computerized interactive courseware that teach basic educational skills -- math, reading, grammar, etc. -- using a video game format. This courseware seems anecdotally competitive in viewer interest with commercial TV and video games. It is possible that, if access to such courseware were near

¹ Note that the NII might have several added purposes related to productive employment. These include: 1) Opportunities to work at home for those like welfare mothers and the physically disadvantaged that can not travel to a work place; 2) A means of long distance testing of work skills as a means for employers to screen potential hires; and 3) A mechanism to marry job supply and demand through a national job bank that will show job seekers where the opportunities lie, and government officials information to help target training for skills where there's a demand.

universal, learning patterns and the use of Americans' free time could be changed substantially.

Figure 4 illustrates this point. The data on the charts is notional, but probably is a reasonable representation of reality. The stacked bar on the left shows the average distribution of time for children in school. A very substantial portion is devoted to TV and other activities that are of the pure entertainment variety. If, however, there was universal access to learning software that was fun to use, it is possible to imagine the time distribution shown in the stacked bar at the right. This would include a significant portion of children's' time being spent on "edutainment" -- fun and productive learning. A similar redistribution could also apply to adults.

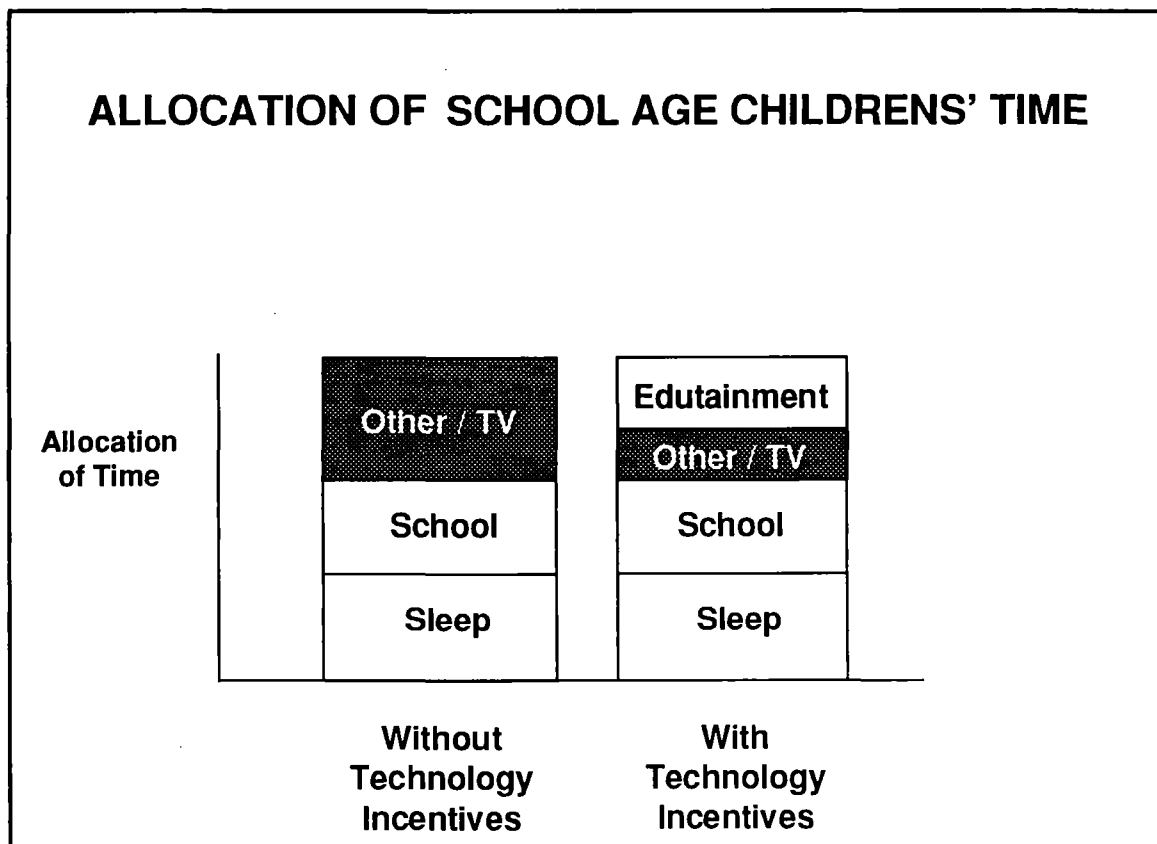


Figure 4

If learning software could be designed to compete effectively with purer forms of entertainment, the reallocation of the nation's time for learning would seem to produce a generally better educated public with much better skills for higher paying, internationally competitive jobs. If the entertainment content of such software were directed at economically disadvantaged portions of the population (as Sesame Street was for TV audiences), then it could afford a means of closing the learning gap -- and thus the earning gap -- among the economic strata in American society.

Ideas and Bumper Stickers from "Core Group"

Ideas

- Educational Commercials embedded in Windows 95 updates. Other software
- Tax Incentives
 - Teachers write off computer @ home office
 - Individuals (families) get credits for investing in technology, like energy credits in the 70's.
- Theme-- "Let's reduce the Learning Deficit"
We have best business- best Colleges- best R&D in the world
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 - profits come from usage
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- Eisenhower program used for technology only

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- **What is the Size of the Voter Blocks:**
 - Internet users-30Mil
 - K-12-?
 - Colleges-?
 - Workers-?
 - Retirees-?
 - Community Colleges-?

Last idea

Gerstner may take the lead for us in pulling Businesses together for an early meeting for the President!

Action	Impacts	Costs/ who pays	Status	Lead Agency
Expanded Use of Federal Program Authority				
Announce Challenge Grants	Broad impact on quality of instructional content, Immediate impact on 9 communities [quantify number of schools/students] in winning teams	Federal expenditure \$9.5 M in 1995 - Clinton proposes	Underway	
Exec order allowing government workers to use flextime to do tech corps activities	OPM - #s of tech workers - 1. that	Cost of lost federal worker time?		on the call OPA - flextime → Govt time
Exec Order to GSA to streamline excess computing equipment				UP - OK L/R/Toby
Improved Web site for communicating lessons learned/federal technology				IT ITO
Coordinated Federal			Underway	IT Reuser

Tom

Shel
Lead

Govt time

Toby

Julie

Harry

ITG
ITG

1

2

3

4

5

Can't work

	R&D under SI director				
6	Create Digital Resources from Tech Agencies (NASA, NOAA) and SI, Archives, Park Services	<i>\$ have Virtual Museum of Am History</i>	public/private cost share with creative partnerships	Underway	Mark R. White Smithsonian
7	Software/Hardware Purchasing Consortia of Chapter 1 Schools to drive private markets	<i>use field of - to encourage</i>			Stearns
8	Revise regulations allowing leasing instead of purchasing				Stearns
9	Interactive Tools for Head Start				HHS/CBB/Edelman
10	Direct Eisenhower Training Funds to Technology training				Stearns
11	Expanded program using technology in America, with Disabilities (education)				Stearns

Four out
 (Honey)
 Star Star

Rack

ask

12

13

14

16

Technology for Job Corps Programs	7			
Adult Basic Education				
JTPA	Disrupt			
Perkins				
One Stops				

me

not

all



New Private Partnerships				
Technology Corps for helping Schools Plan, install, and maintain technology	12 state systems (?) by end of 1996, all states by 1998(?)	private donors/volunteer time	Underway	Ed Campbell
National Technology Honor Society		existing nonprofit	Underway	Ed Campbell
Expand Tech Corps to facilitate donations of equipment (computers and communication)				Lytle - UP Ed
Private Consortia for supporting Challenge Grant development (major foundations)				

Shot at ^{specific} list

Henry Mike

24

Communications				
Support Snowe-Rockefeller		Bikel		
Spectrum Allocation for educational uses		Kalil - Toby	Kalil	
Excess government satellite or other communication capacity		Jeff		Henry & Mike Kalil
Improved use of cable public access channels				Kalil

DOD Actions				
Use Interactive Instructional Facilities in Guard Armories during Week				Finch - Johnson
DoD CREADAs with developers of instructional software				

- Descript of Actm - Goal & Timetable.
- Benefits
- Barriers
- Incremental impact?
- Costs - public
private

GOAL	EXISTING PROGRAMS	POSSIBLE CHALLENGE	PRESIDENTIAL ACTION
Computers in the Classroom	ED: Chapter I DOC: TIIAP ?: Stephenson Wydler computers	National Plan for Technology (NPT) <i>finance</i>	1) Make surplus gov't computers and telecomm equipment available 2) Make federal education and training materials available
Connecting Classrooms	DOC: TIIAP, PTFP grants DOC: NII Adv. Council report NSF: network testbeds for education	Connect all classrooms, libraries, etc. per 1994 State of the Union address	3) Make excess Fed. satellite, radio, other telecom capacity available 4) Conduct review of Fed. spectrum needs and policy
Content Development	ED: Tech. Learning Challenge ED&DOL: School to Work DOD: training & defense dependent schools NSF: Ed and Human Resources/Apps of Adv Technology	Corporations commit share of profit (5% as in Minnesota?) to content development	5) Fed. employees work with schools, private sector to develop (under employee volunteer plan or other, existing cooperative programs)
Teacher Training <i>changing Training Tech Support</i>	ED: Eisenhower Grants NSF: Teacher Prof Enhancement DOE/NASA/etc: internships at Federal labs AmeriCorps : Volunteers in schools	Support for Tech Corps/Fed Tech Corps Nat'l Plan for Tech national <i>compain?</i>	6) Pell/Perkins grants and loans available for teacher training and re-training

7) Federal employees volunteer up to 4 hr/month in schools during duty hours

Author: David A. Lytel at ostp
Date: 8/17/95 8:46 AM
Priority: Urgent
Subject: today's Technology Working Group (Sallet) meeting

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Skip,

I wanted to share with you some of the items for the Education and Technology announcement in September that Tom Kalil and I put together yesterday. In addition to the ones we've been working on, like Techcorps and the interagency technology office (or whatever that is called) there are a few other possibilities that I'd like you to raise:

1. Cooperation between the private sector and the Smithsonian on digitization: Henry has attended many of these meetings and we need to see if they are at all close to having anything to announce. This could parallel the Library of Congress announcement last fall (made by Gingrich) of significant private sector support for their National Digital Library initiative.
2. GSA has been working on an Internet Access Contract for State and Local governments that would make the Federal government's buying power available not only to other governments but also to school districts, fire districts and volunteer fire departments, etc. They were planning on having this ready in the fall. I'm finding out where they are with this now.
3. My favorite: How we can do a better job of getting used USG computers into the schools. We have a Bush Executive Order on disposition of used computer equipment that was issued between the election and the end of his term that is very explicit about making computers available for schools. (Photocopy in your box.) As far as I can tell it has never been implemented. I would like to ask GSA to establish a formal disposition process for used government computers. If we wanted to take this further we could make a big deal about the qualified computer recycling centers the USG was going to be dealing with in each region so that other large organizations could also be encouraged to dispose of their used PCs this way. We could get a huge number of PCs into schools this way but we really MUST help establish the recycling/reconditioning infrastructure so the PC industry has an established "trailing edge."

Executive Order 12821 of November 16, 1992

Improving Mathematics and Science Education in Support of the National Education Goals

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the provisions of the Stevenson-Wydler Technology Innovation Act of 1980, as amended (15 U.S.C. 3701, *et seq.*), and the Federal Property and Administrative Services Act of 1949, ch. 288, 63 Stat. 377 (codified as amended in scattered sections of the United States Code), and in order to ensure that Federal departments, agencies, and laboratories assist in mathematics and science education to meet the National Education Goals, it is hereby ordered as follows:

Section 1. Assistance in Mathematics and Science Education. (a) Each executive department and agency (hereinafter referred to as "agency") that: (i) has a scientific mission; (ii) employs significant numbers of scientists, mathematicians, and engineers; or (iii) has a Federal laboratory; as determined by the Committee established by section 2(d) of this order, shall, to the maximum extent permitted by law:

(1) Assist in the mathematics and science education of our Nation's students, teachers, parents, and the public by establishing programs at their agency to provide for training elementary and secondary school teachers to improve their knowledge of mathematics and science. Such programs, to the maximum extent possible, shall involve partnerships with universities, State and local elementary and secondary school authorities, corporations, and community based organizations. These activities shall be coordinated with other relevant Federal teacher training programs (e.g., those administered by the National Science Foundation, the Department of Education, and the Department of Energy). Because of its extensive experience in teacher training programs at its Federal laboratories, the Department of Energy, when requested by other agencies, shall assist in the development of these activities.

(2) Provide brief periods of excused absence for Federal employees to assist in the conduct of mathematics and science education programs, in accordance with guidelines of the Office of Personnel Management.

(b) Develop, within 6 months of the issuance of this order, an implementation plan to fulfill the requirements of this section. The plan shall be consistent with approved agency budget totals. The plan shall be coordinated through the Committee on Education and Human Resources of the Federal Coordinating Council for Science, Engineering, and Technology.

Sec. 2. *Transfer of Education-Related Federal Equipment to Elementary and Secondary Schools.* (a) To the maximum extent permitted by law, all agencies shall give highest preference to elementary and secondary schools in the transfer or donation of education-related Federal equipment. All such transfers to the schools shall be made at the lowest cost permitted by law.

(b) Each agency, to the maximum extent permitted by law, shall:

(1) Identify and transfer excess education-related Federal equipment at that agency that can be transferred to elementary and secondary schools by:

(A) Direct transfer of excess Federal research equipment in accordance with the provisions of subsection 3710(i) of the Stevenson-Wydler Technology Innovation Act of 1980, as amended (15 U.S.C. 3710(i)). The transfer of such excess equipment shall be reported to the General Services Administration (GSA); or

(B) Reporting such excess equipment to the GSA for donation when declared surplus in accordance with the provisions of section 203(j) of the Federal Property and Administrative Services Act of 1949, as amended (40 U.S.C. 484(j));

(2) Allow the elementary and secondary schools sufficient time to select available education-related Federal equipment before it is disposed of elsewhere;

(3) Provide training and technical assistance, where possible, to recipients of education-related Federal equipment to ensure that the equipment will be utilized to its full capability; and

(4) Attempt to provide education-related Federal equipment to those elementary and secondary schools with the greatest need or to the recipients of federally funded mathematics and science projects where the equipment would further enhance the progress of the project.

(c) The GSA shall:

(1) To the maximum extent permitted by law, ensure that elementary and secondary schools are notified of the opportunity to obtain education-related Federal equipment, and, where practical, provide to elementary and secondary schools a current listing of education-related Federal equipment that is available for transfer, and, when requested, provide a current listing of this available equipment to agencies; and

(2) Maintain a record of the education-related Federal equipment provided to elementary and secondary schools pursuant to this order.

(d) There is hereby established a Coordinating Committee on Education-Related Federal Equipment (Committee). The Committee membership shall include, but not be limited to, representatives of the Departments of Defense, Education, Energy, and Health and Human Services, the National Science Foundation, the General Services Administration, and the National Aeronautics and Space Administration.

(1) The Co-chairs of the Committee shall be the Administrator of General Services and the Secretary of Education, or their designees.

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(2) The Committee shall assess the availability of appropriate education-related Federal equipment and mechanisms for expeditious notification and transfer of the equipment to elementary and secondary schools and shall resolve issues that may arise in implementing this order.

(3) The Committee shall inform, as necessary, non-Federal groups (e.g., National Governors Association, State Agencies for Surplus Property, etc.) of issues concerning the transfer of education-related Federal equipment.

(4) The Committee may consult with the Committee on Education and Human Resources of the Federal Coordinating Council for Science, Engineering, and Technology concerning activities outlined in this order, particularly those activities listed in section 1 of this order.

Sec. 3. Definitions. For the purposes of this order:

(a) "Education-related Federal equipment" means excess or surplus personal computers and related peripheral equipment, research equipment, and education-related equipment that is appropriate for use in mathematics and science curricula in elementary and secondary school education.

(b) "Elementary and secondary schools" means individual public or private educational institutions encompassing kindergarten through twelfth grade, as well as public school districts.

(c) "Federal laboratories" has the meaning set forth in the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a(d)(2)).

(d) "Research equipment" means excess or surplus Federal property appropriate for mathematics and science education activities at the elementary and secondary education levels, as defined by and in accordance with the regulations of the agency that owns the research equipment.

GEORGE BUSH

THE WHITE HOUSE,
November 16, 1992.

TABLE 1. Federal Framework Programs Targeted for the Expanded Use of Learning Technologies

PROGRAM	GOALS 2000	SCHOOL-TO-WORK	TECHNOLOGY-RELATED ASSISTANCE ACT
Overall Purpose	Provides framework for educational reform	Creates school-to-work systems for all youth in all areas of the country	Systems change in availability of assistive technology
Lead Agency	Department of Education	Departments of Education and Labor	Department of Education
Planned Expenditures	\$400 million for FY '95	\$250 million for FY '95	\$39 million for FY '95
Target Population(s)	All K-12 academic and vocational students	All youth seeking to enter the workforce	All persons with disabilities
Current and/or Potential Uses of Technology Supported by Program	To be identified by local grant recipients	To be decided by local grant recipients	To provide access and independence
Related Technology-Based Activities Supported	N/A	To be decided by state and local grant recipients	Technology Demonstration Centers in 55 states and territories
Method of Distribution	Title III technology grants	Competitive grants to states and communities	Competitive grants

TABLE 2. Federal Delivery Programs Targeted for Expanded Use of Learning Technologies

	HEADPROGRAM START	COMPENSATORY EDUCATION (CHAPTER 1/ TITLE I)	EISENHOWER PROFESSIONAL DEVELOPMENT PROGRAM	JOB CORPS	ADULT BASIC EDUCATION AND LITERACY	JOB TRAINING PARTNERSHIP ACT (JTPA)	PERKINS VOCATIONAL AND APPLIED TECHNOLOGY ACT	ONE-STOP CAREER CENTER SYSTEM	REHAB. ACT OF 1973
Overall Purpose	Help prepare pre-school children and their parents for school and life	Improve educational opportunities in high poverty schools	Promote teaching skills of teachers in all academic subjects	Improve employability of disadvantaged youth	Help educate adults over age 16 not enrolled in school	Provide youth and adults with job readiness skills	Promote improved academic and occupational skills	Help integrate career transition information and services into a "re-employment system"	Prepare persons with disabilities for employment
Lead Agency	Department of Health and Human Services	Department of Education	Department of Education	Department of Labor	Department of Education	Department of Labor	Department of Education	Department of Labor	Department of Education
Planned Expenditures	\$3.5 billion for FY '95	\$6.7 billion for FY '95	\$320 million for FY '95	\$1.1 billion for ADP for FY '95	\$254.6 million for FY '95	\$965 million for FY '95	\$936 million for FY '95	\$120 million for FY '95	\$2.1 billion (all programs FY '95)
Target Population(s)	Low income disadvantaged pre-school children and their parents	Teachers, administrators, and educationally deprived children	Teachers and administrators	Disadvantaged youth seeking to enter the workforce	Educationally deprived adults	At-risk youth, economically disadvantaged and dislocated adults	Vocational-technical education students	All job seekers (especially those seeking re-employment), and all employers	Persons with disabilities at or near work age
Current and/or Potential Uses of Technology Supported by Program	Interactive satellite distance learning program, national electronic bulletin board system	Integrated learning systems, record keeping, testing, and tracking	Networking to promote sharing of instructional materials, instructional videodiscs and software	Computer Managed Instruction (CMI) system supporting record keeping, diagnosis, assignment, testing and tracking	Interactive teleconferencing, dial-in electronic communications	ETA Wide Area Network (WAN) which includes access to Bulletin Boards, E-mail, TTRC, and Internet	Purchase of computers, software, curricula for learning labs	To be identified by local grant recipients	Monitoring Information System, MONLOG, computerized tracking used to target resources for training
Related Technology-Based Activities Supported	Incorporate satellite distance learning as part of training and technical assistance	Technical Assistance Centers, Rural Technical Assistance Centers	Forums for promoting technology		Software development N/A	Satellite transmissions for delivering training to regional offices	Support VocNet, an Internet listserv	Technology-based proposals from grant applicants encouraged	Client Assistance Program Research (CAPAR)
Planned Expansion of Automated Tools	MIS for managing programs	Connection of stand-alone systems to networks, distance learning, high quality software	Development and maintenance of networks at state and local levels	ADP System, educational software packages usable with LANs	Linking electronic networks	Expanded use of Internet for information dissemination	Distance learning tools, simulation software, intelligent tutoring systems	Expand use of Training Technology Resource Center (TTRC)	Internet access
Method of Distribution	Grants to public or private nonprofit agencies	Formula grants to counties/school districts contingent upon state approval of applications	Formula grants to states	Operations of 100+ residential centers	Formula grants to states	Formula grants to states	Formula grants to states	Competitive grants	Formula grants to states

U.S. DEPARTMENT OF LABOR

OFFICE OF THE SECRETARY
WASHINGTON, D.C.
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AUG 28 1995

MEMORANDUM FOR GENE SPERLING
MICHAEL SCHMIDT
PAUL DIMOND

FROM: JON ORSZAG *Jon*
JOSH DISTLER *JD*

SUBJECT: Computer Use in the Workforce and Wages

As the American economy enters the 21st century, the American workforce is having to adapt. More and more, employers are expecting their employees to be able to use computers. Further, the computer revolution shows few signs of slowing down. In 1993, nearly half--47 percent--of American workers directly used a computer at work. That's up from 25 percent in 1984 and 37 percent in 1989.

The most educated and best-paid workers are the ones most likely to use computers. In 1993, 67 percent of college graduate workers used computers on the job in 1993, compared to only one in ten workers who did not finish high school. Additionally, 53 percent of female workers used computers at work in 1993, while only 41 percent of male workers did.

Contrary to the conventional wisdom, young workers are not the main participants in the computer revolution. Workers ages 25 to 39 and 40 to 54 were equally likely to use computers at work in 1993, with usage rates of 50 percent. Among workers ages 18 to 24, only 34 percent used computers at work in 1993, while 37 percent of workers ages 55 to 64 did so.

The most common uses of computers at work? In 1993, 44 percent of workers used computers at work for word processing, 35 percent used them for databases, and 32 percent used them for communications. Electronic mail was used by 21 percent of computer users in 1993, up from 15 percent only four years before. In 1993, 94 percent of accountants used computers at work, 87 percent of secretaries, and 55 percent of teachers. That's up from 1984, when the numbers were 68 percent, 47 percent, and 32 percent, respectively.

Computer use at work is far more common among white-collar workers than among blue-collar workers, 68 percent compared to 17 percent, but both groups are seeing steady usage growth. Unionized workers are less likely to use computers than non-union workers, 39 percent versus 47 percent. The rate of computer use among operators, fabricators, and laborers is less than one third of the overall average.

Home computer ownership has also risen; up to 23 percent of all households in 1993 from 8 percent in 1984 and 15 percent in 1989. Not surprisingly, those who are well off are much more likely to own computers than those who are not; 60 percent of households with at least \$75,000 in annual income owned computers at home in 1993, compared to 23 percent of households with incomes between \$30,000 and \$35,000 and 7 percent of households with incomes under \$5,000.

Better educated individuals are also more likely to own computers at home. In 1993, 45 percent of individuals with at least a college degree had computers at home, compared with 13 percent of individuals who did not finish high school. The difference is even more pronounced in young adults, aged 25 to 39. In 1993, 46 percent of 25 to 39 year olds with a college degree or higher had computers at home. For high school dropouts, that rate was only 7 percent. The computer revolution has touched every group of Americans as computer ownership has increased at all income and education levels.

The West had the highest regional computer usage rate at 49 percent in 1993. The Northeast and Midwest were about average at 47 percent and the South lagged at 45 percent. Computer use has been growing in all regions, although since 1989, growth has been slightly above average in the Midwest and slightly below average in the South.

WAGES:

The President and the Secretary of Labor have often noted that the fundamental fault line running through today's workforce is based on skills. Well-educated and skilled workers are prospering in the new turbo-driven economy, while those with skills out-of-date or out-of-synch with the new economic landscape are being left behind.

To be sure, skills have always mattered. But they have not always been such potent determinants of economic destiny. As recently as 1979, the average male college graduate earned 39 percent more a similar man with only a high school diploma. By 1993, however, the average male college graduate was earning 80 percent more than his high-school graduate counterpart.

The computer revolution has deepened the division of the American workforce. In 1984, the average worker who used a computer at work earned 32 percent more than the average worker who did not use one at work. By 1993, that premium had increased to 43 percent. Even after accounting for differences in worker's characteristics, there was still a 23 percent wage premium for using a computer in 1993, up from 19 percent in 1984. If we also account for the worker's occupation and industry, the wage premium for using a computer in 1993 was 14 percent, up from 11 percent in 1984.

According to some studies, the growing use and importance of computers may explain a good deal of the change in the returns to education. Indeed, as much as 40 to 65 percent of the increase in the return to schooling may be attributed to the proliferation of the computer in the workplace.

TECHNOLOGY LEARNING CHALLENGE EVENT PROPOSAL

SUMMARY

This memorandum outlines ideas for a major Presidential Initiative on Technology and Learning. We propose a two-stage process:

- First, that the President take part in a series of small, "stage-setting" meetings and events with business and education leaders who work with the President in designing and participating in a public-private effort to make sure our nation's schools are not left behind in the information technology revolution that is sweeping through the rest of our economy;
- Second, that the President come together with business and education leaders in a large-scale Presidential event to launch a new public-private partnership for education and technology.

The timeframe for action on this issue is short -- on October 12, the House Education and Science Committees are planning to hold a public hearing on educational technology that will likely include Speaker Gingrich as the star attraction. No Administration witnesses will be invited. In order not to be trumped by this hearing, the best timeframe for action is September 6 through October 9. This memorandum will discuss a number of ideas for the stage-setting events and the roll-out event. A companion memo will discuss details about what this public-private initiative will entail.

STAGE-SETTING EVENTS

Over the next few weeks, the President has a number of opportunities to meet with business and education leaders who are interested in working with the President on a major public-private initiative to ensure that our nation's schools are full participants in the information revolution. These small meetings and events would raise expectations and press interest in an event sometime in early October that would roll out the Technology Learning Challenge initiative. Events could include:

- **September 6: Meeting with CEOs Who Support Continued Funding for GOALS 2000.** On September 6, the President is scheduled to meet with 8-10 CEOs who support GOALS 2000. At this meeting, the President is going to discuss ways in which CEOs can help to accelerate the pace of education reform. As a part of this discussion, he could briefly raise the issue of educational technology and his interest in talking in more detail with the business community over the next few weeks about joining together in a major public-private initiative on this front. Obviously, this would not be the major topic of discussion in this meeting, but it would at least raise the issue with these CEOs. The fact that education technology initiatives were discussed in the meeting could be a part of the press release for this event.

- **September 15 or 18: Meeting with Leaders of the National Coordinating Committee on Technology in Education and Training (NCCTET).** The NCCTET represents a broad and influential spectrum of the business and education community who are interested in promoting the use of technology in education (see attached list of NCCTET Members). NCCTET members are scheduled to come to DC for a regular meeting on September 18. The President could meet with a small number of the most influential members of this group (i.e. Geiger of the NEA, Shanker of AFT, George Lucas) to talk in some detail with them about a Presidential roll-out event in early October and what kinds of commitments they could make at this event to promote the use of learning technologies in our nation's schools.
- **September 21: Announcement of the 1995 Technology Learning Challenge Grant Award Winners.** On September 21, the President is in California, he could announce the 20 winners of the 1995 Technology Learning Challenge Grant competition. These winners represent community-based partnerships between schools, local communities, colleges, and businesses (see attached list of winners), and we could get a number of representatives of these winning teams on stage with the President for this event. There are 2 winning consortia from California. During this presentation, the President could formally announce that on October X he will be joining with business leaders and educators from across the country to announce a major new initiative in learning technology.

To support these meetings, Cabinet members could be asked to hold similar stage setting meetings over the next few weeks.

These meetings/events serve four very important purposes:

- They would help ensure the support of the business and education community by getting these groups to feel ownership and buy-in to the initiative up front, before the actual roll-out takes place;
- They would give the President an opportunity to encourage the private sector and foundations to contribute to this initiative.
- They will help build anticipation for the actual roll-out event in the press -- each meeting and event would hint more and more broadly at the major initiative to come;
- They will help convince the press and the public that this is not a "one-shot" event that was put together purely for message reasons, but instead is an initiative that has been thought out and carefully planned over a period of time.

THE PRESIDENTIAL ROLL-OUT EVENT

In early October, the President should come together with leading business and education leaders to unveil a major new public-private initiative to get technology into our nation's

schools. This event must take place before October 11, or else we run the very serious risk of being trumped by Speaker Gingrich on this issue.

The event will involve a number of influential CEOs, education officials, students, and teachers who will all commit to participating fully in this new partnership. The President will be announcing a series of challenges to the private sector and a number of executive actions that he will take to show the seriousness of the federal government's commitment to this partnership. The CEOs will announce their support of the initiative. Possibilities for event sites include the following:

- **The White House South Lawn.** In his speech on September 21, the President could invite business and education leaders back to the White House for the roll out event. The backdrop for this event could be examples of the latest electronic technology for children, where participants could actually use some of this technology. Children from local schools could be invited to try out the technology as well. All of the costs for setting up this equipment would be borne by a business association called Kids Net (a consortia of high-tech hardware and software companies), which has been offering to set up and show-off their equipment for an event at the WH on learning technology for over a year. CEOs who can not make it to the event could be linked by satellite to give brief statements of support, and the event could be broadcast by satellite to a number of schools across the country.
- **A High-Tech School Outside the Beltway.** There are a number of schools all across the country that are using technology in innovative ways that could host such an event.
- **A School-Member of One of the Winning Technology Learning Challenge Grant Consortia.** The event could be held at the site of one of the TLC grantees.